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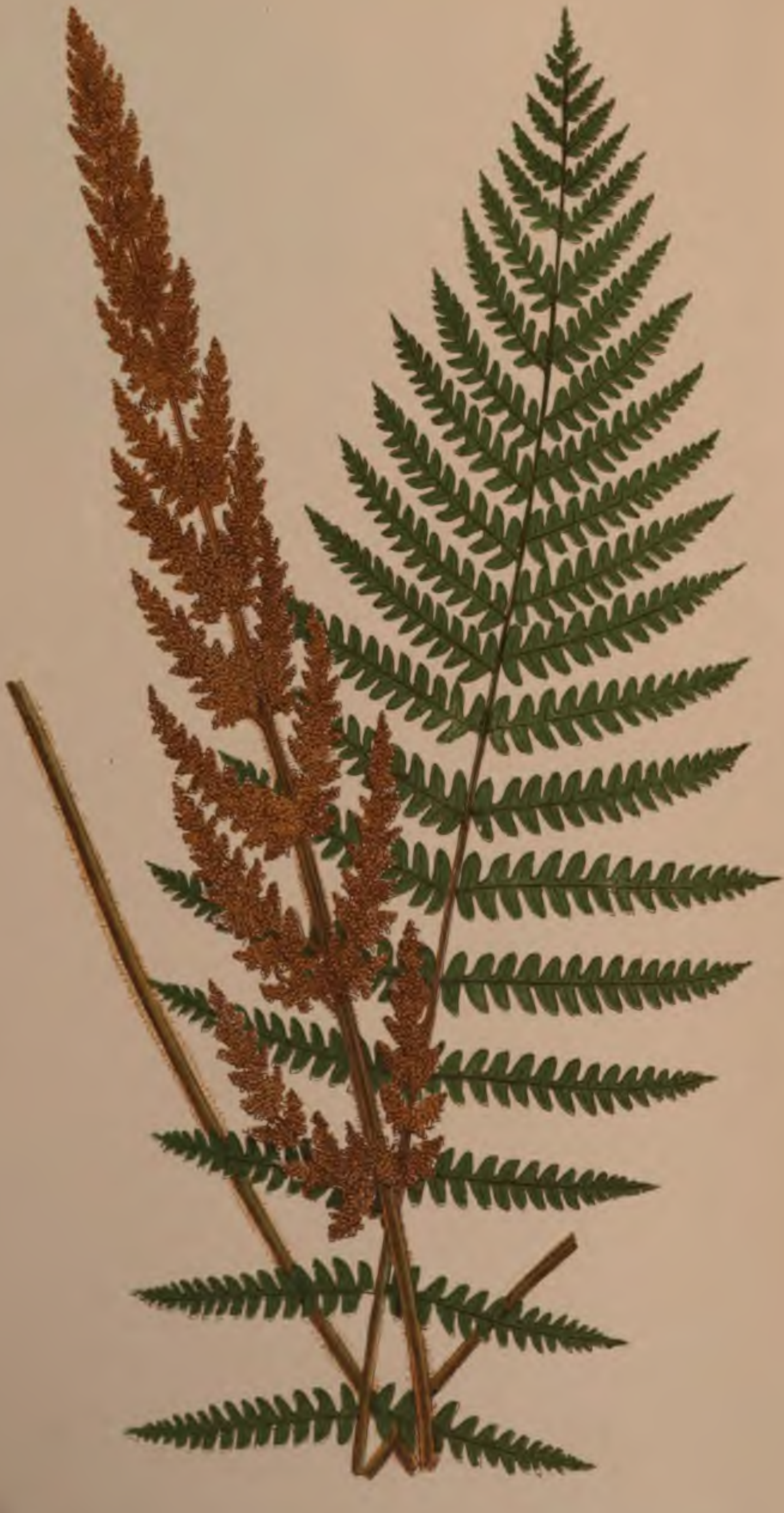

OSMUNDA CINNAMOMEA—FERTILE AND BARREN FRONDS.

I—Vol. 8.

FERNS:

BRITISH AND EXOTIC.

VOLUME VIII.

CONTAINING

OSMUNDA.	CYATHEA.
HYMENOPHYLLUM.	HEMITELIA.
TRICHOMANES.	ALSOPHILA.
DAVALLIA.	TODEA.
THYRSOPTERIS.	DICTYOXIPHIUM.
CIBOTIUM.	MOHRIA.
TRICHIOCARPA.	ANEMIDICTYON.
DEPARIA.	LYGODIUM.
DICKSONIA.	ANGIOPTERIS.
GLEICHENIA.	MARATTIA.

BY

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GROOMBRIDGE AND SONS, 5, PATERNOSTER ROW.
M DCCC LXIV.

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FERNS;

BRITISH AND EXOTIC.

OSMUNDEÆ.

Composed of *Osmunda* and *Todea,* the latter genus of which will be reserved for the Appendix at the close of this volume.

Two small families of interesting and handsome Ferns.

GENUS I.

OSMUNDA. Linnæus.

Fronds pinnate or bipinnate, with forked free veins. Fertile portion contracted, and forming simple or compound sporangiferous panicles. In some species the barren and fertile fronds are different, one set of fronds being sterile and the other fertile; in other species, where fertile and sterile on the same frond, the upper in some cases, and the middle in others only is fertile.

Length of fronds from two to twelve feet.

A genus of plants delighting to grow in damp situations, usually on the banks of a river or brook.

One species only, *Osmunda regalis,* is an inhabitant of England.

Mr. Smith, in his "Catalogue of the Ferns Cultivated at Kew," enumerates—

Cinnamomea, *Linnæus.*
Claytoniana, *Linnæus.*
Regalis, *Linnæus.*
Spectabilis, *Willdenow.*

Mr. Moore, in his "Index Filicum," mentions—

Regalis, *Linnæus.*
Gracilis, *Link.*
Javanica, *Blume.*
Claytoniana, *Linnæus.*
Cinnamomea, *Linnæus.*
Imbricata, *Kunze.*

Link, in his "Filicum Species," gives—

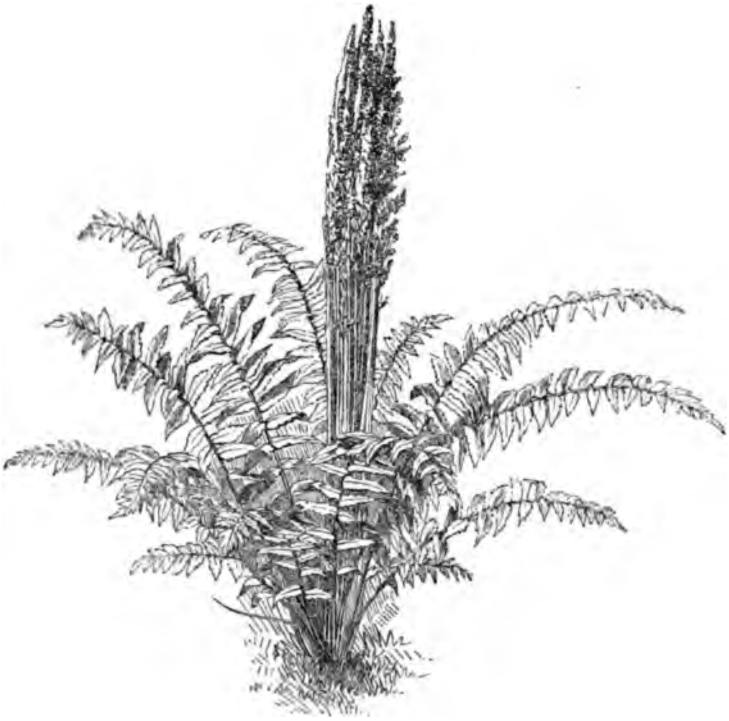
Regalis, *Linnæus,* England.
Spectabilis, *Willdenow,* Canada.
Palustris, *Link,* Brazil.
Gracilis, *Link,* North America.
Glaucescens, *Link,* North America.
Interrupta, *Michaux,* Canada.
Cinnamomea, *Linnæus,* Florida.

Kunze, in his "Index Filicum," enumerates—

Cinnamomea.
Claytoniana.
Glaucescens.
Gracilis.
Regalis.
Spectabilis.

Sprengel, in his "Systema Vegetabilium," gives—

Claytoniana, *Linnæus.*
Interrupta, *Michaux.*
Regalis, *Linnæus.*
Spectabilis, *Willdenow.*
Obtusifolia, *Willdenow.*
Cinnamomea, *Linnæus.*
Japonica, *Thunberg.*
Lancea, *Thunberg.*



Plant from a photograph.

OSMUNDA CINNAMOMEA.

Linnæus. Schkuhr. J. Smith. Sprengel.
Kunze. Link. Liebmann. Presl.

PLATE I. VOL. VIII.

Osmunda—Derivation dubious, probably from the Saxon *Osmund.*
Cinnamomea—Cinnamon.

An extremely handsome and very dissimilar species, worthy of a place in every collection.

A deciduous hardy Fern.

Native of North America, Mexico, East Indies, and South America.

Introduced into the Royal Gardens, Kew, in 1772, having been received from Mr. Martin.

Fertile and sterile fronds different, the barren fronds growing round an erect caudex, and being inclined at an angle of 45°, whilst the fertile fronds rise perpendicularly in the centre.

Sterile fronds bipinnatifid, the pinnæ being oblong-obtuse. The fertile fronds bipinnate, and densely covered with a ferruginous mass of hairs, as is also the stem of the sterile frond. Pinnæ usually alternate. Frond narrow, being only seven inches and a half in the widest part, and narrowing to the apex. Width of pinnæ three quarters of an inch; usually about twenty-five pairs of pinnæ.

Fertile frond erect, and twenty-six inches in length, of which twenty-three inches is naked. Sterile frond about thirty-three inches in length, the basal nine inches being naked. Membranaceous; colour a bluish green.

Stipes and rachis green.

Fertile portion, when mature, a rich reddish brown, which, in contrast with the stem covered with whitish wool, gives the plant a singular appearance.

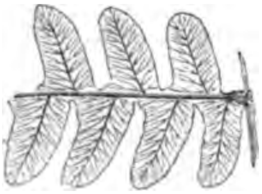
Veins forked.

In order to shew the habit of the plant a wood-cut illustration from a photograph is appended.

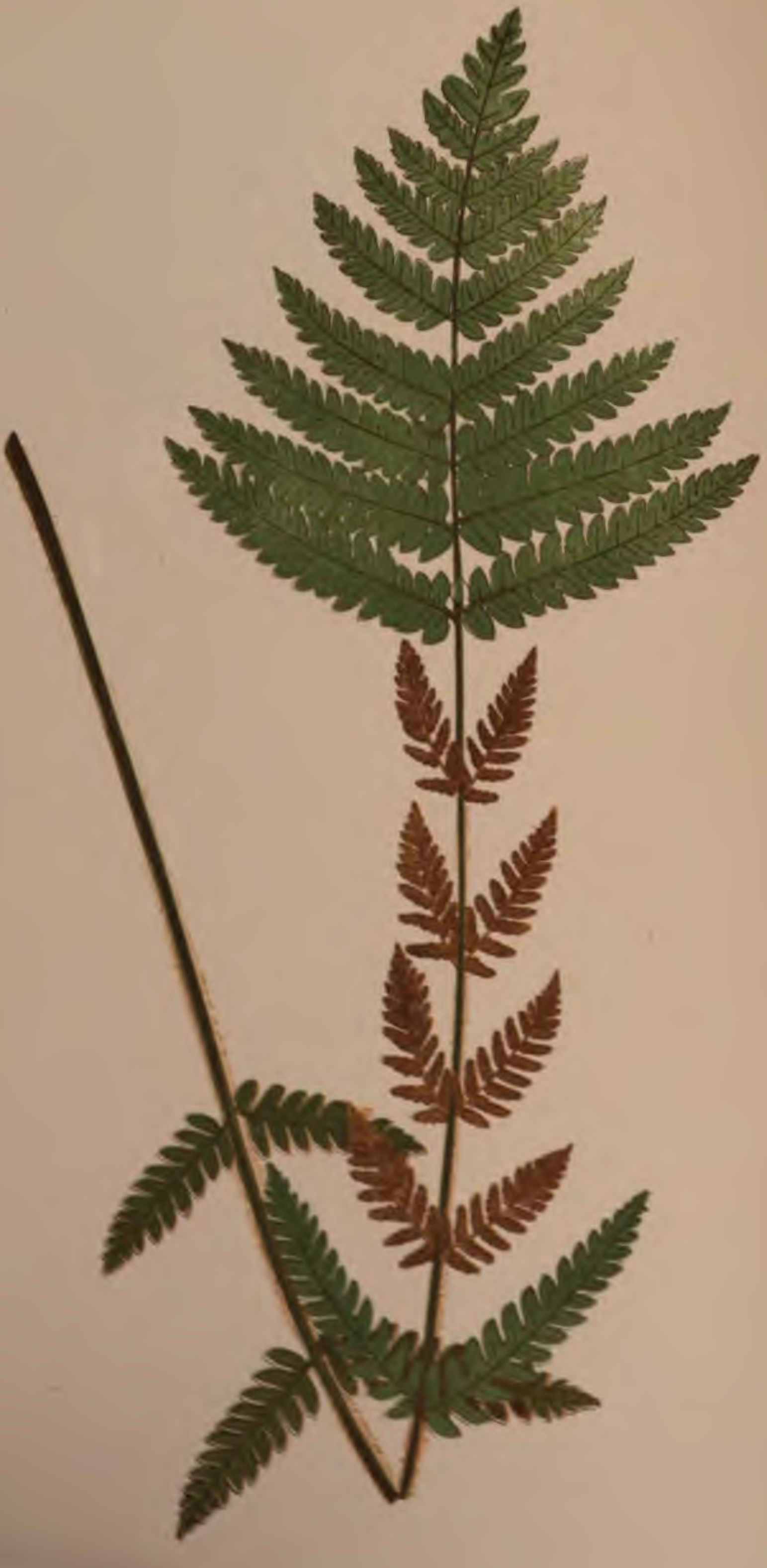
For plants my thanks are due to the late Mr. Large, of New York, and to Mr. Sim, of Foot's Cray; and for fronds to Mr. G. Norman, of Hull.

It may be procured from any Nurseryman.

The illustration is from a plant in my own collection.

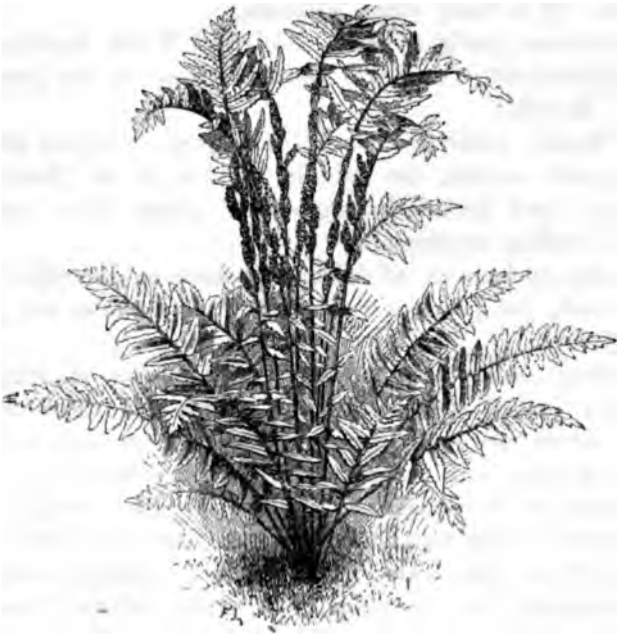


Portion of sterile Pinna.



OSMUNDA CLAYTONIANA.

II—VOL. 2.



Plant from a photograph.

OSMUNDA CLAYTONIANA.

LINNÆUS. J. SMITH. SPRENGEL. KUNZE.

PLATE II. VOL. VIII.

Osmunda interrupta,	MICHAUX. SCHKUHR.
" "	LINK. WILLDENOW.

Osmunda—Derivation dubious, probably from the Saxon *Osmund.*
Claytoniana—Clayton's.

A MOST lovely vivid green Fern, very dissimilar from all others, and worthy to be grown in every hardy fernery, and making a handsome specimen under pot culture; requiring to be grown in a shady damp situation.

A deciduous hardy species. Native of North America.

Introduced into the Royal Gardens, Kew, in the year 1772, by Mr. Martin.

The fronds, which are bipinnatifid, grow somewhat erect out of an erect caudex, the middle portion of the frond being contracted and fertile, having sterile pinnæ above, and this portion bending horizontally.

The appropriateness of Michaux's name of *interrupta* cannot be doubted, yet Linnæus's name of *O. claytoniana* has priority in its favour.

In fronds thirty-two to thirty-three inches in length the basal ten inches is naked, above which are three pairs of pinnæ, which are sub-opposite, three inches and a half in length, distant, and occupying five inches above the stipes; then come the fertile pinnæ, about five pairs, occupying nine more inches of the frond, above which there are sterile pinnæ, about eight or nine pairs, close together, touching each other, and occupying the remaining nine inches of the frond, and this upper portion being somewhat triangular in form.

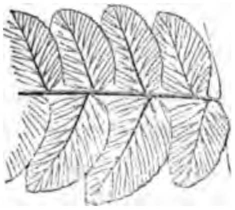
Stipes very hirsute, with long woolly pale red hairs. When the frond is entirely sterile it is not erect, but inclined at an angle of about 40°, bearing fifteen or sixteen pairs of pinnæ. Colour vivid green. Veins forked.

The wood-cut illustration is from a photograph, and is intended to shew the habit of this exceedingly handsome Fern.

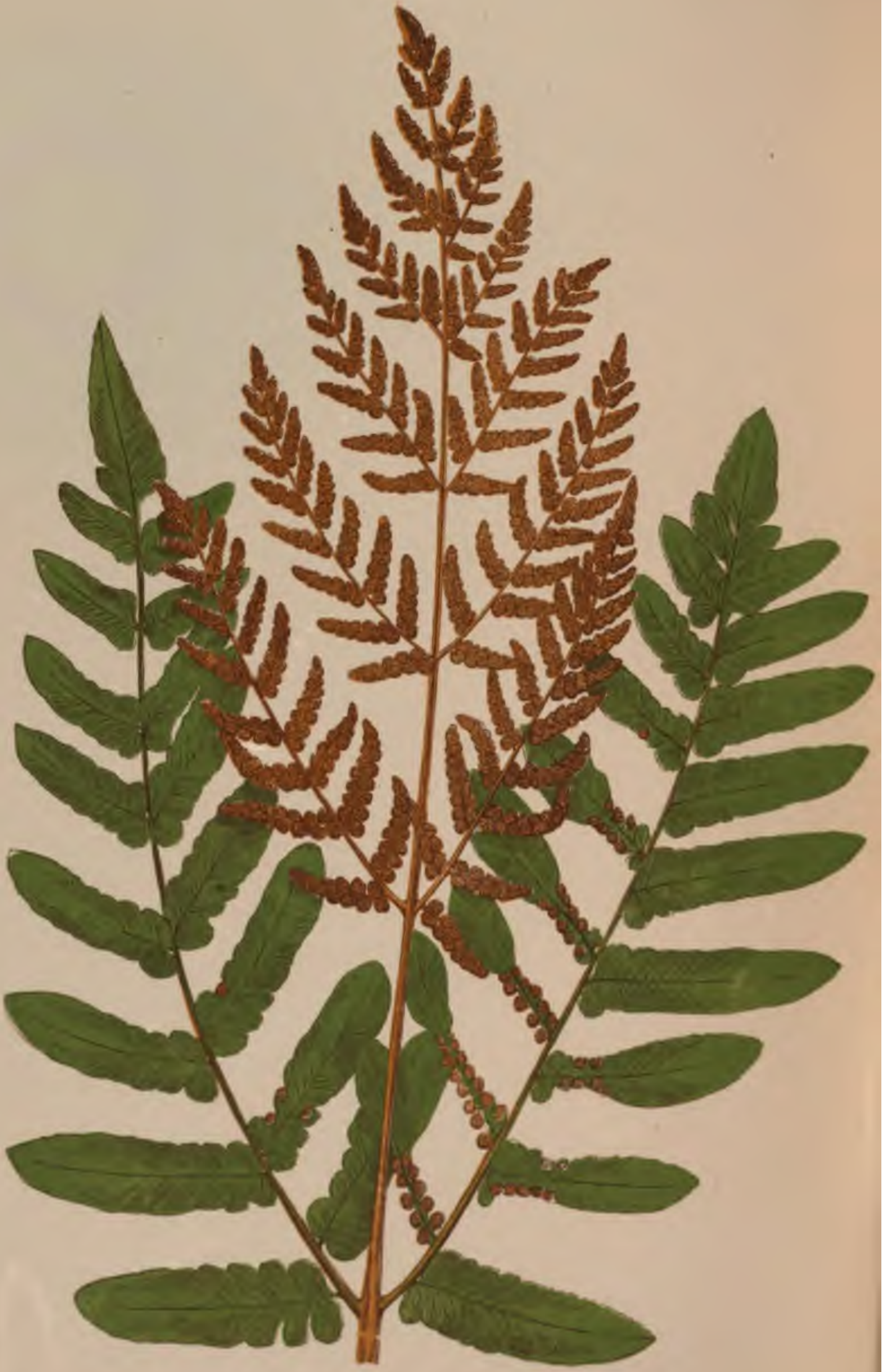
For plants I am indebted to the late Mr. Large, of New York, and to Mr. Sim, of Foot's Cray.

It may be procured of any Nurseryman.

The illustration is from a plant in my own collection.

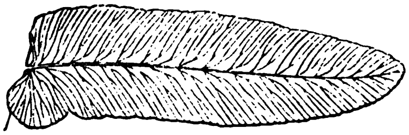


Portion of sterile Pinna.



OSMUNDA REGALIS.

III—VOL. 8.



Pinnule of mature Frond—upper side.

OSMUNDA REGALIS.

LINNÆUS. PLUMIER. SCHKUHR. LINDLEY AND MOORE.
J. SMITH. BOLTON. J. E. SMITH. BABINGTON.
HOOKER AND ARNOTT. NEWMAN. DEAKIN. SOWERBY.
PRATT. RALFS. MACREIGHT. SPRENGEL. KUNZE. LINK.
WILLDENOW. OEDER. EHRHART.

PLATE III. VOL. VIII.

Aphyllocalpa regalis,	CAVANILLES.
Struthiopteris regalis,	BERNHARDI.
Osmunda filix-florida,	LOB.
Filix latifolia,	CORDUS.
" *palustris,*	DONONÆUS.
" *aquatica,*	DALECHAMPS.
" *florescens,*	DALECHAMPS.

Osmunda—Derivation dubious, probably from the Saxon, *Osmund.*
Regalis—Royal.

THE Royal Fern, Osmund Royal, or Flowering Fern, is one of our handsomest British species.

A hardy indigenous plant, growing in wet or boggy situations.

A local, but wide-spread species, extending from the West of England through Scotland to the Shetland and Western Islands. A common Irish Fern; native also of Jersey.

Found throughout Europe; in Asia—in the Himalaya and Mingrelia; in Africa—in Algiers, Azores, and the Cape of Good Hope; and in North and South America.

Wherever this Fern grows in abundance the effect is such as to make it "king" of the locality. Ten years ago this Fern grew in a field belonging to Mr. C. Allcock, at Bulwell; draining the land, however, has completely destroyed this Nottinghamshire locality of *Osmunda regalis.*

Easily cultivated, preferring shade, and a wet peaty soil.

Fronds coriaceous or herbaceous, pinnate or bipinnate, and occasionally tripinnate; the pinnæ or segments frequently articulated. Fertile segments contracted and mostly rachiform; pinnules oblong and dilated; base auricled.

Rhizoma caudiciform or tufted.

Caudex perennial, stout, and sometimes two feet in height.

Stipes half the length of the whole frond, succulent, and, as with the rachis, tinged with red. Scaly when young, pale green and smooth when fully grown.

Pinnules opposite or alternate, about two inches in length.

Veins branched.

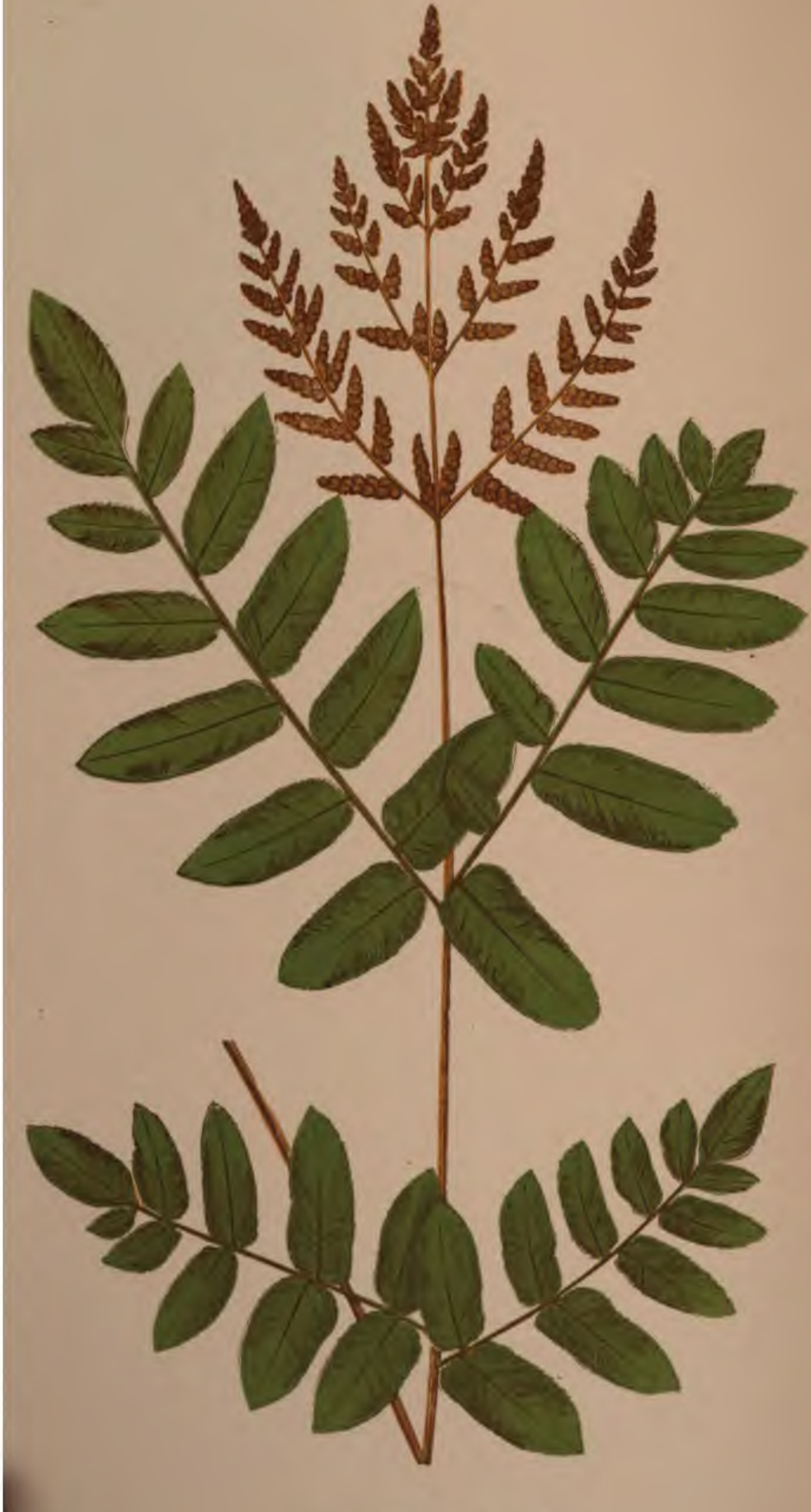
Fructification mostly occupying the whole of the upper portion of the frond, yet occasionally only a portion, one half of the pinnule being fertile and contracted, and the other half sterile.

Length of frond from two to twelve feet, according to situation.

For plants my thanks are due to Miss Millett, of Penzance; Mr. Wilkinson, of Totteridge Park; and Mr. Joseph Sidebotham, of Manchester.

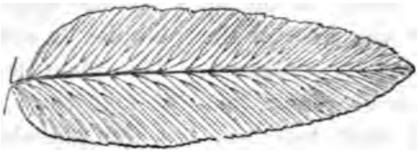
It can be procured at any Nursery.

The illustration is from a plant in my own collection.



OSMUNDA GRACILIS.

IV—VOL. 8



Pinnule of mature Frond—upper side.

OSMUNDA GRACILIS.

LINK. KUNZE. SCHOTT.

PLATE IV. VOL. VIII.

Osmunda humilis,	SWEET?
" *palustris,*	LINK. SWEET.

Osmunda—Derivation dubious, probably from the Saxon, *Osmund.*
Gracilis—Slender.

A CHARMING delicate-looking flowering Fern, somewhat resembling a very delicate *Osmunda regalis.*

A deciduous hardy species.

Native of North America.

Fronds bipinnate, the pinnæ opposite or sub-opposite, and distant; pinnules large in size, about six pairs on each pinna, with an ultimate larger one, and this ultimate pinnule frequently connected with one or both of the pinnules immediately below it. The pinnules are short-stalked, and much larger than in *O. regalis.*

Veins forked, and less distinct than in *O. regalis.*

Stipes roundish, not hirsute, and green.

Length of frond about twenty-six inches, of which the basal twelve to fifteen inches is naked. Length of pinnæ eight inches; length of pinnules three inches, width three quarters of an inch.

The frond is fertile at the apex for the upper six inches.

In *O. regalis* the base of the pinnules is not rounded, and the footstalk is not so apparent. The plant is much larger, and has many more pinnæ, usually four times as many, and these are placed close together, but the pinnules are smaller. The rachis, stipes, and fertile portion, are very much more slender in *O. gracilis*, and its forked veins less prominent.

Fronds ascending.

For plants of this species my thanks are due to the late Mr. Large, of New York, and to Mr. Sim, of Foot's Cray.

It may be procured of Messrs. Sim, of Foot's Cray; E. G. Henderson, of St. John's Wood; Rollisson, of Tooting; Kennedy, of Covent Garden; Booth, of Hamburg; and Cooling, of Derby.

The illustration is from a plant in my own collection.

DICKSONIEÆ.

In this tribe of Ferns Sir W. Hooker enumerates—

Dicksonia,	51 species.	Trichomanes,	87 species.
Cibotium,	6 "	Davallia,	112 "
Deparia,	2 "	Lindsæa,	60 "
Loxsoma,	1 "	Dictyoxyphium,	1 "
Hymenophyllum,	85 "		

Mr. Smith, in his "Catalogue of the Ferns grown at Kew," enumerates—

Lindsæa,	2 species.	Deparia,	1 species.
Schizoloma,	1 "	Trichomanes,	3 "
Dictyoxyphium,	1 "	Hymenophyllum,	3 "
Humata,	2 "	Sitolobium,	5 "
Davallia,	10 "	Balantium,	1 "
Leucostegia,	2 "	Dicksonia,	4 "
Odontosoria,	2 "	Cibotium,	2 "
Microlepia,	4 "	Thyrsopteris,	1 "

The several families of the tribe *Dicksonieæ* have the sporangiferous receptacles terminal, marginal, or punctiform, or when several are combined, linear-elongated. The indusium is lateral, and attached interiorly, the exterior margin being free, and usually conniving with the opposite portion of the margin, (which is changed in texture,) forming a bivalved or tubular groove, in which the sporangia are situated.

Amongst these Ferns are some of the most pigmy on the one hand, and some of the most gigantic on the other.

Sir W. J. Hooker describes above four hundred species, and of these only three are inhabitants of Great Britain and Ireland.

GENUS I.

HYMENOPHYLLUM. Smith.

A group of dwarf Ferns for the most part more resembling mosses than Ferns, two of which, *H. tunbridgense* and *H. unilaterale,* are natives of Great Britain. They are all difficult to cultivate, which renders the foreign species rare in a living state in this country.

The fronds are pellucid, membranaceous, simple, or decompound, with a creeping and mostly filiform rhizoma.

Sori situated within a two-valved involucre.

Veins dichotomously branched, being simple and costæform in the segments.

The name is derived from the Greek, *hymen*—a membrane, and *phyllon*—a leaf.

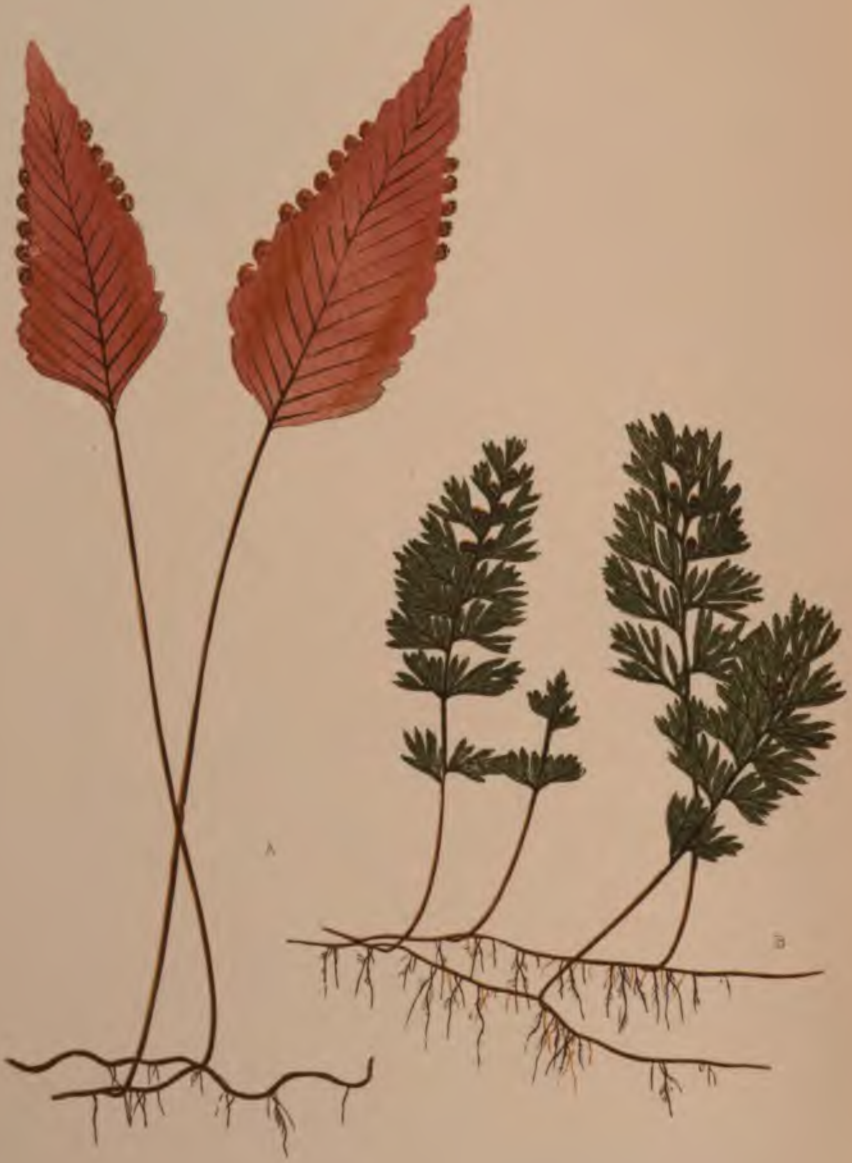
Known in England as the "Film Fern," or "Filmy Fern."

Sir W. J. Hooker gives eighty-five species in his "Species Filicum," namely,—

Cruentum, *Cavanilles,* Chiloe.
Marginatum, *Hooker,* New Holland.
Asplenioides, *Swartz,* Jamaica.
Abruptum, *Hooker,* Jamaica.
Hirsutum, *Swartz,* Jamaica.
Ciliatum, *Swartz,* West Indies.
Plumieri, *Hooker,* Hispaniola.
Trichophyllum, *Hooker,* Cumana
Boryanum, *Willdenow,* Mauritius
Hirtellum, *Swartz,* Jamaica.
Chiloense, *Hooker,* Chiloe.
Organense, *Hooker,* Brazil.
Valvatum, *Hooker,* Columbia.
Beyrichianum, *Kunze,* Peru.
Microcarpum? *Desvaux,* Hispaniola.
Capillare? *Desvaux.*
Elegans, *Sprengel,* Brazil.
Pulchellum, *Schlechtendal,* Mexico.
Sericeum, *Swartz,* Jamaica.
Interruptum, *Kunze,*Pampayaco
Pyramidatum, *Desvaux,* Tropical America.
Elasticum, *Bory,* Mauritius.
Berteroi, *Hooker,* Juan Fernandes.
Obtusum, *Hooker,* Oahu.
Æruginosum, *Carmichael,* New Zealand.
Lanceolatum, *Hooker,* Oahu.
Lindeni, *Hooker,* Caraccas.
Arbuscula? *Desvaux,* Mauritius.

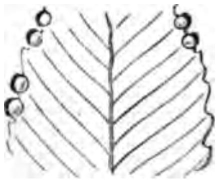
Tunbridgense, *Smith*, England.
Wilsoni, *Hooker*, England.
Peruvianum, *Hooker*, Esmeraldas.
Pectinatum, *Cavanilles*, Chiloe.
Jamesoni, *Hooker*, Columbia.
Smithii, *Hooker*, Philippine Islands.
Bridgesii, *Hooker*, Chiloe.
Dentatum? *Cavanilles*, Java.
Multifidum, *Swartz*, N. Zealand.
Bivalve, *Swartz*, New Zealand.
Dichotomum, *Cavanilles*, Java.
Tortuosum, *Banks*, Staten Island.
Attenuatum, *Hooker*, Chiloe.
Neesii, *Hooker*, Java.
Secundum, *Hooker*, Staten Island.
Cristatum, *Hooker*, Andes.
Spinulosum, *Hooker*, Caraccas.
Fucoides, *Swartz*, Jamaica.
Denticulatum, *Swartz*, Java.
Rarum, *Brown*, Tasmania.
Badium, *Hooker*, East Indies.
Caudiculatum, *Martius*, Chiloe.
Fimbriatum, *Smith*, Luzon.
Fuciforme, *Swartz*, Chiloe.
Pulcherrimum, *Colenzo*, New Zealand.
Dilatatum, *Swartz*, N. Zealand.
Protrusum, *Hooker*, Jamaica.
Recurvum, *Gaudichaud*, Sandwich Islands.
Crispatum, *Wallich*, Nepal.
Flexuosum, *Cunningham*, New Zealand.
Undulatum, *Swartz*, Jamaica.
Javanicum, *Sprengel*, India.
Myriocarpum, *Hooker*, Columbia.
Polyanthos, *Swartz*, Peru.
Crispum, *Hooker*, Venezuela.
Erosum, *Blume*, Java.
Dædaleum, *Blume*, Java.
Imbricatum, *Blume*, Java.
Ricciæfolium, *Bory*, Bourbon.
Australe? *Willdenow*, Tasmania.
Exsertum, *Swartz*, Nepal.
Capillaceum, *Roxburgh*, St. Helena.
Demissum, *Swartz*, New Zealand.
Scabrum, *Richard*, New Zealand.
Reniforme, *Hooker*, Peru.
Gracile, *Bory*, Mauritius.
Axillare, *Swartz*, Jamaica.
Flabellatum, *Labillardiere*, Tasmania.
Floribundum? *Hooker*, Cumana.
Ramosissimum? *Hamilton*, Nepal.
Tenellum? *Don*, Nepal.
Endiviæfolium? *Desvaux*, Peru.
Decurrens? *Swartz*.
Emarginatum? *Swartz*, Java.
Hygrometricum? *Desvaux*, Madagascar.
Nudum? *Desvaux*, Guadaloupe.
Telfairianum? *Wallich*, Mauritius.

Not more than four or five of these species are cultivated in this country, and with the exception of the British ones, these are very rare.



HYMENOPHYLLUM CRUENTUM H. TUNBRIDGENSE

V—VOL. 8.



Portion of mature Frond—upper side.

HYMENOPHYLLUM CRUENTUM.

CAVANILLES. HOOKER. SWARTZ. WILLDENOW.

PLATE V.—A. VOL. VIII.

Hymenophyllum—Membrane-leaved. *Cruentum*—Blood-coloured.

A HANDSOME rare species, and somewhat doubtful whether alive in our British collections at the present time.

An evergreen stove Fern.

Native of Chiloe, growing on the trunks of trees.

Fronds simple, broadly lanceolate, sinuato-dentate, and penninerved. Veins simple.

Stipes very long and slender.

Rhizoma slender and creeping.

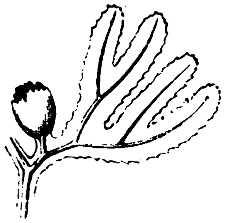
Sori marginal, the wedge-shaped base sunk in the frond, the other portion protruding beyond the frond.

Length of frond six inches; colour blood-red when growing, but turning to brown in the dried specimens.

For fronds I am indebted to Mr. J. Gray, of St. Thomas', Exeter.

It cannot be procured from any Nurserymen.

The illustration is from Mr. Gray's frond.



Portion of Pinna, (magnified.)

HYMENOPHYLLUM TUNBRIDGENSE.

J. E. SMITH. HOOKER AND ARNOTT.
BABINGTON. DEAKIN. NEWMAN. SOWERBY. WILLDENOW.
MOORE. SCHKUHR. BROWN. J. SMITH. SWARTZ.

PLATE V.—B. VOL. VIII.

Hymenophyllum asperulum,	KUNZE.
" *revolutum,*	COLENSO.
" *thunbergii,*	ECKLON.
" *minimum,*	RICHARD. A. CUNNINGHAM.
" *cupressiforme,*	LABILLARDIERE. WILLDENOW.
Trichomanes tunbridgense,	LINNÆUS. HEDWIG.
" *pulchellum,*	SALISBURY.

Hymenophyllum—Membrane-leaved. *Tunbridgense*—Tunbridge.

THE Tunbridge Film Fern is a dwarf mossy-looking Fern, requiring to be grown under a glass in a shady situation.

A hardy indigenous species.

A local Fern, yet found in many parts of England, Wales, Scotland, and Ireland. I have received specimens from Killarney, Penzance, Tunbridge Wells, Exeter, and from several places in Westmorland.

Found throughout Europe, India, Mauritius, South Africa, Chili, Brazil, Azores, Madeira, and New Zealand.

The fronds are pellucid, smooth, membranaceous, olive green in colour, elongated-ovate, pinnate below; the pinnæ subvertical, alternate, decurrent, winged, and furcately pinnatifid; segments linear-obtuse, and spinulosely serrate.

Veins dichotomously branched; venules free.

Rhizoma rigid, creeping, filiform, and dark brown in colour, and branched.

Stipes slender. Rachis winged.

Sori extra marginal, the two valved involucres projecting outwards from the margin, the valves being somewhat orbicular, flattish, and spinulosely serrate on the upper margin.

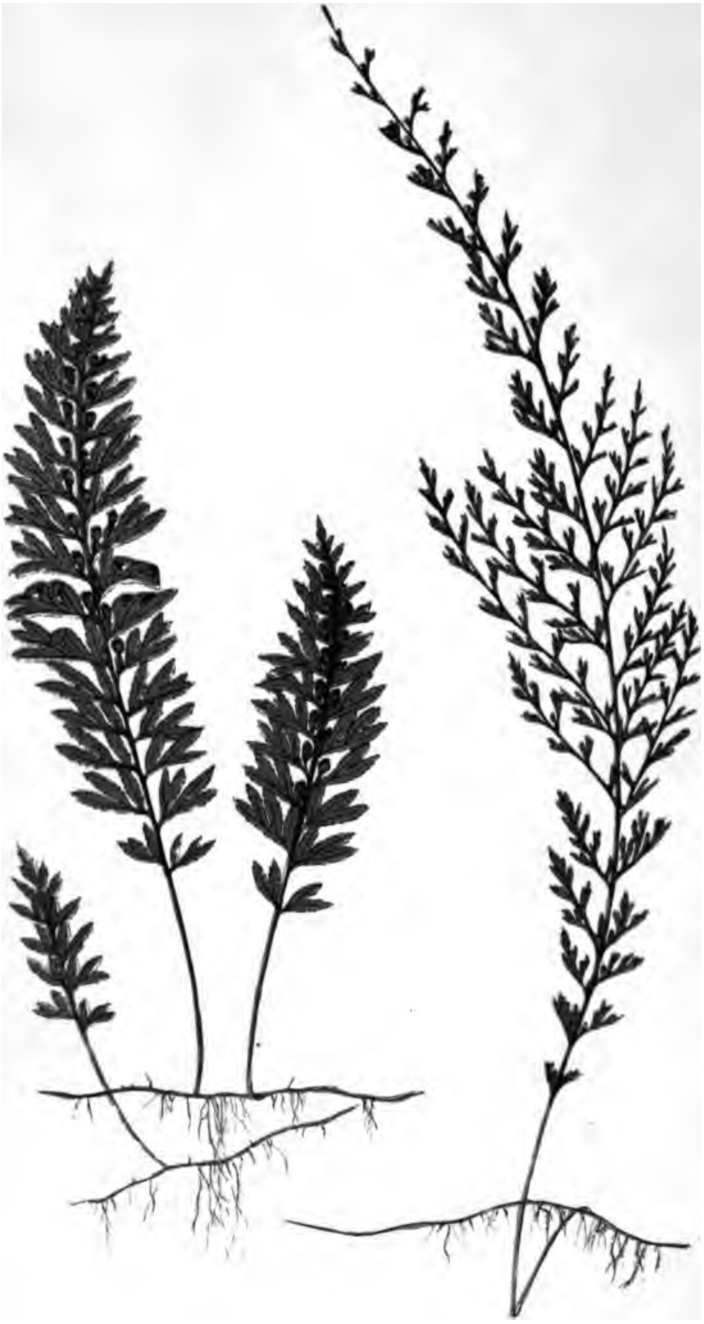
Length from one to six inches.

Inhabiting mountains and rocky places, covering the damp rocks and trunks of trees.

My thanks are due to Miss Millett, of Penzance; Mrs. Delves, of Tunbridge Wells; Mr. R. J. Gray, of St. Thomas', Exeter; and Mr. Clarke, of Flass House, Crosby Ravensworth, for plants of this Fern.

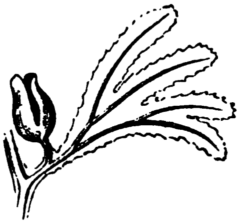
It may be procured of any Nurseryman.

The illustrations are from plants in my own collection.



[illegible] VAR. RAMOSUM.

VI--VOL. [illegible]



Portion of a pinna, (magnified.)

HYMENOPHYLLUM UNILATERALE.

WILLDENOW. BORY. NEWMAN. SOWERBY. MOORE.

PLATE VI.—A AND B. VOL. VIII.

Hymenophyllum wilsoni,	HOOKER AND ARNOTT.
" "	SPRENGEL. WILSON.
" "	BABINGTON. DEAKIN.
" *tunbridgense,*	SCHKUHR. KUNZE.
" *peltatum,*	DESVAUX.
" *menziesii,*	PRESL.
" *meyeri,*	PRESL.
Trichomanes peltatum,	POIRET.
" *tunbridgense,*	BOLTON.

Hymenophyllum—Membrane-leaved. *Unilaterale*—One-side.

WILSON'S FILM FERN is a somewhat similar-looking Fern to Plate V.—B, darker in colour, and readily told from *H. tunbridgense* by the form of the valves; in *H. unilaterale* they are ovate and convex, and the margin is even; whilst in *H. tunbridgense* the edge is spinulosely serrate, and the valves are rounder and flatter.

More widely spread throughout England, Scotland, Ireland, and Wales, than *H. tunbridgense*.

Native also of Norway, the Faroe Isles, Bourbon, South Africa, Terra del Fuego, Cape Horn, Falkland Isles, Tasmania, and New Zealand.

Fronds smooth, pellucid, membranceous, dark green in colour, elongate-oblong, and pinnate. Pinnæ decurrent in the upper part, distinct below, curved backwards, and digitately pinnatifid. Segments linear obtuse, and spinulosely serrate.

Veins dichotomously branched.

Sori extra marginal. Involucres turned in an opposite direction to that of the segments.

Valves ovate-oblong and convex, the edge entire.

Rhizoma rigid, creeping, branched, filiform, and dark brown.

Stipes slender and wiry; rachis narrowly winged above.

Length of frond from two to six inches.

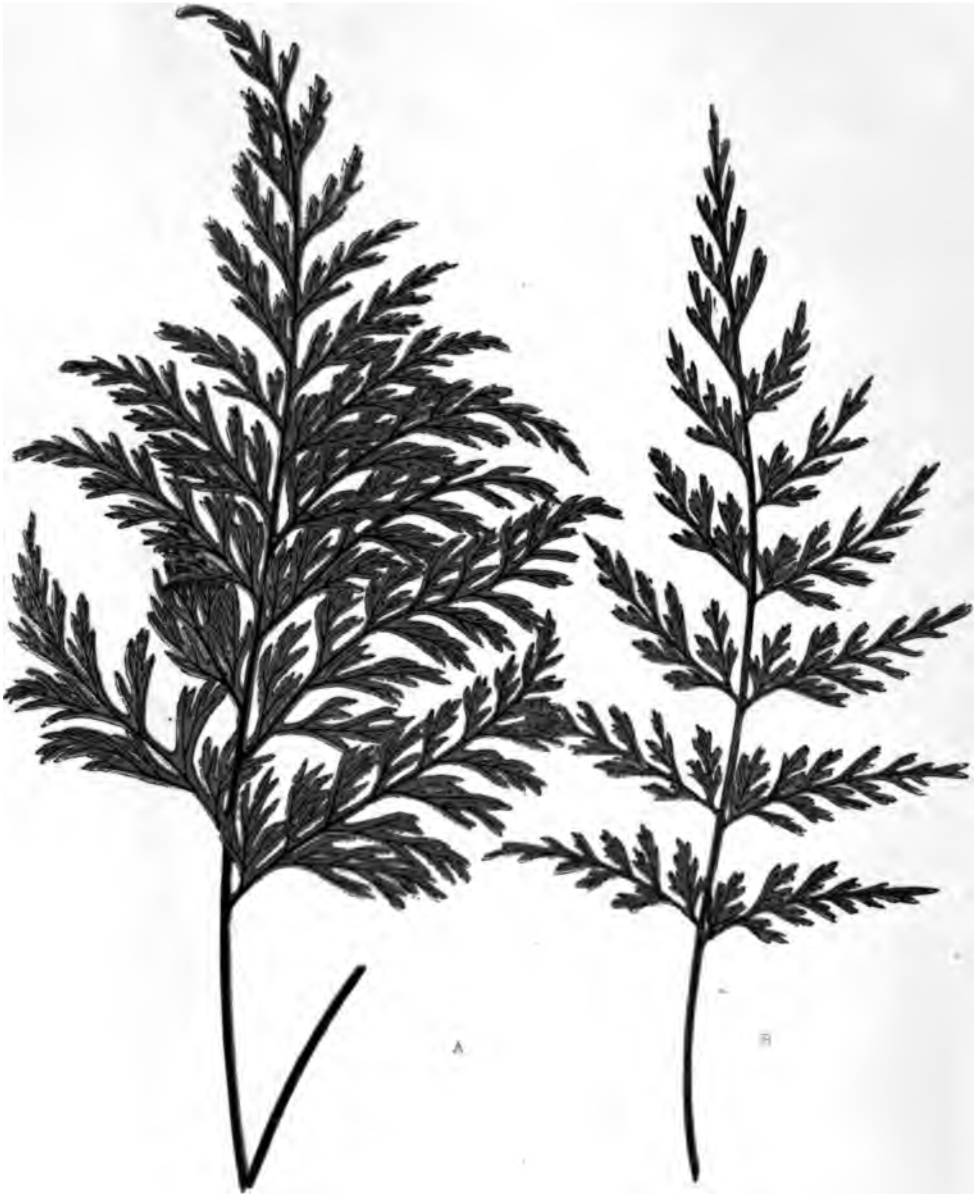
Mr. Clowes remarks that the fronds resume their growth for several years, and that this is not the case with *H. tunbridgense*.

Mr. Gray, of St. Thomas', Exeter, has forwarded to me plants of a branched variety, which is here figured as variety ***ramosum*** (see Plate VI.—B.) It is very handsome, the divisions being narrower, and the plant altogether more slender. This species has a tendency to become branched.

My thanks are due to Mr. R. J. Gray, St. Thomas', Exeter; Miss Millett, of Penzance; Mrs. Delves, of Tunbridge Wells; and Mr. Clarke, gardener to W. Dent, Esq., Crosby Ravensworth, for plants of this species.

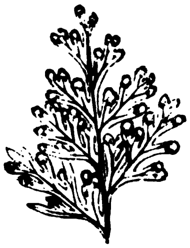
It may be procured of any Nurseryman.

The illustrations are from plants forwarded by Mr. Gray.



HYMENOPHYLLUM HIRTELLUM. H. DEMISSUM.

VII—VOL. 8.



Portion of mature Frond—upper side.

HYMENOPHYLLUM HIRTELLUM.

SWARTZ. HOOKER. WILLDENOW.

PLATE VII.—A. VOL. VIII.

Hymenophyllum—Membrane-leaved. *Hirtellum*—Hairy.

A BEAUTIFUL *Trichomanes*-looking plant, rare in cultivation.

An evergreen stove species.

Native of Jamaica.

Fronds ovate-oblong in shape, slightly acuminate, thin, pellucid, membranous, arching, and from two to three inches wide.

Tripinnatifid, with linear, slightly attenuated, closely-placed segments.

Hairy, and more especially on the costa and margin; hairs branched and fulvous. Stipes slightly winged, wiry, and hairy.

Involucres ovate-orbicular in form, somewhat obliquely cuneate at the base, and partially sunk in the frond, and broader than the segments, the valves ciliated. Fronds elastic.

Growing on wet banks.

Length of frond from four to six inches; colour brownish green.

For fronds my thanks are due to Mr. R. Sim, Foot's Cray.

It may be procured from Mr. R. Sim, of Foot's Cray.

The illustration is from a frond kindly sent by Mr. Sim.

Portion of barren Frond—upper side.

HYMENOPHYLLUM DEMISSUM.

SWARTZ. HOOKER. SCHKUHR. WILLDENOW.

PLATE VII.—B. VOL. VIII.

Trichomanes demissum, FORSTER. HEDWIG.

Hymenophyllum—Membrane-leaved. *Demissum*—Humble.

A PRETTY dwarf species, of a filmy texture, and having shining deep green fronds.

A warm greenhouse Fern.

Native of the Pacific Islands, New Zealand, Tasmania, and Philippine Islands.

Fronds erect, elastic, ovate-acuminate in form, and drooping. Pinnate, the pinnæ being acuminate and bi-tripinnatifid; segments linear obtuse, entire, and pointing upwards.

Stipes terete and smooth.

Rachis not winged except above.

Involucres situated on the lateral segments, small, ovate, and sessile.

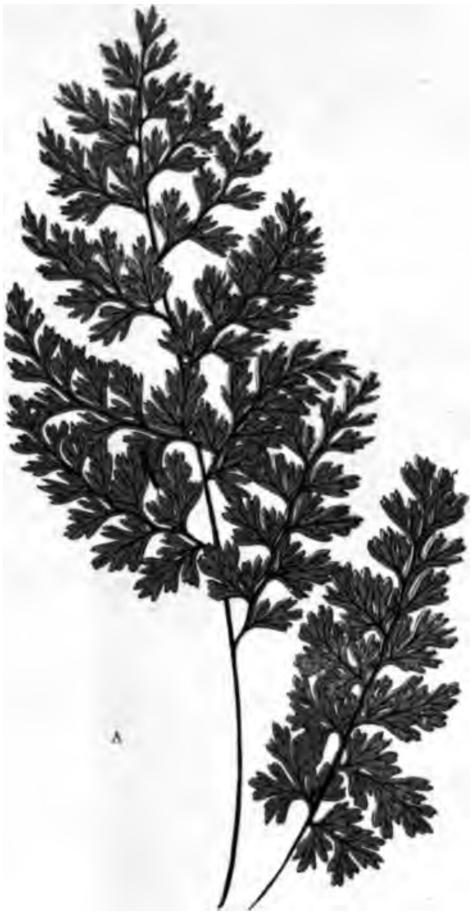
Caudex and stipes stout.

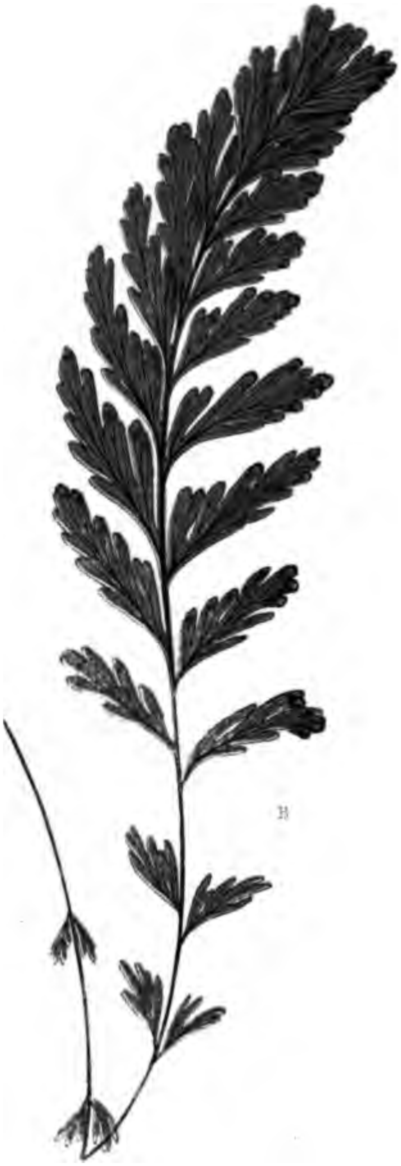
Length of frond from eight to ten inches, and stipes nearly as long; width from three to four inches.

For a frond of this rare Fern I am indebted to Mr. R. Sim, of Foot's Cray.

It may be procured of Mr. R. Sim.

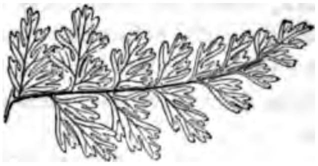
The illustration is from Mr. Sim's frond.





HYMENOPHYLLUM POLYANTHOS. H. SERICEUM.

VIII—VOL. 8.



Portion of a barren Frond—upper side.

HYMENOPHYLLUM POLYANTHOS.

Swartz. Willdenow. Hooker. Hedwig.

PLATE VIII.—A. VOL. VIII.

Hymenophyllum abietinum,	Kunze. Hooker & Greville.
" *jalapense,*	Chamisso & Schlechtendal.
" "	Martens and Galleotti.
" *badium,*	Wallich. (*Not* Hooker and Greville.)
" *ricciæfolium,*	Klotzsch.
" *clavatum,*	Swartz. Willdenow. Kunze.
" "	Hedwig.
" *sanguinolentum,*	Swartz. Schkuhr. Hedwig.
" "	Willdenow.
" *villosum,*	Colenso.
Trichomanes sanguinolentum,	Forster.

Hymenophyllum—Membrane-leaved. *Polyanthos*—Many-flowered.

An interesting species, subject to much variety in form, having very slender, arching, elegant, filmy fronds.

An evergreen stove Fern.

Native of the West Indian Islands, Peru, Mexico, Guiana, Surinam, Brazil, Nepal, Assam, Philippine Islands, Jamaica, St. Vincent, Luzon, Juan Fernandez, and New Zealand.

Fronds ovate or oblong, tripinnatifid; segments entire, brief, usually spreading.

Stipes, terete, black, naked, or moderately winged above; wiry.

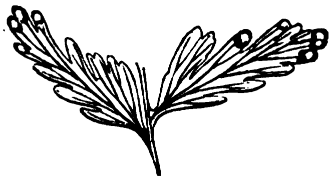
Involucres terminal, nearly orbicular; base slightly sunk, or free, profoundly two-valved, valves convex and entire.

Length of frond from four to twelve inches; width two inches; colour bright green.

For a frond I am indebted to Mr. R. Sim, of Foot's Cray.

It may be procured of Mr. Sim.

The illustration is from Mr. Sim's frond.



Portion of mature Frond—upper side.

HYMENOPHYLLUM SERICEUM.

SWARTZ. WILLDENOW. HEDWIG. HOOKER.

PLATE VIII.—B. VOL. VIII.

Hymenophyllum tomentosum,	KUNZE.
" *plumosum,*	KAULFUSS.

Hymenophyllum—Membrane-leaved. *Sericeum*—Silky.

A SPLENDID rare species, clothing the rocks as with a curtain.

An evergreen stove Fern.

Native of Jamaica, Peru, Columbia, Guatemala, Brazil, and Martinique.

Fronds soft, flexible, much elongated, narrow oblong, apex truncated, habit pendulous; primarily pinnatedly divided, and more especially below; pinnæ lanceolate, approximate, obtuse cuneate at the base, laciniato-pinnatified, yet not profoundly so, frond everywhere ferrugineo-sericeous, that is, densely clothed with rusty hairs, hence its name.

Stipes brief and filiform.

Veins forked, close, parallel, and lamellated.

Involucres small, and situated on the apices of the ultimate segments; orbicular, sunk, and very hirsute.

Length of frond from twelve to twenty-four inches, breadth three or four inches; the pinnæ decayed below whilst fresh and healthy above.

The whole of this family and that of *Trichomanes* require growing in a moist shady situation. The soil must be very fibry and spongy peat, to which a small quantity of silver-sand should be added. Two inches of this compost is sufficient, the remainder of the pot being entirely drainage material. The soil should rise above the rim of the pot, and the plants be pegged down upon it. Place the pot in a glazed saucer-pan, and cover with a hand-glass. The plants must always be kept moist, but not stagnant. Keep the glasses clean, and wipe them dry. Under this treatment beautiful specimens may be grown.

Mr. Sim has obligingly sent me a series of fronds of this species.

It may be procured of Mr. Sim, of Foot's Cray.

The illustration is from Mr. Sim's fronds.

GENUS II.

TRICHOMANES. SMITH.

A PRETTY dwarf genus with membranaceous pellucid fronds, varying from simple to decompound multifid.

Veins simple or forked, free.

Sori terminal, frequently sunk within the segments on which they are placed.

Indusium tubular, or urceolate, the receptacle continued beyond the sporangia and mouth of the indusium, frequently elongated and filiform.

There is one British representative, the *Trichomanes radicans.*

Most of the species inhabit warm climates.

Very few are cultivated in this country.

Sir W. J. Hooker, in his "Species Filicum," enumerates the following species:—

Elegans, *Rudge,* Central America.
Spicatum, *Hedwig,* Guiana.
Nanum, *Bory,* Guiana.
Reniforme, *Forster,* New Zealand.
Membranaceum, *Linnæus,* West Indies.
Punctatutm, *Poiret,* Martinique.
Reptans, *Swartz,* Jamaica.
Bojeri, *Hooker and Greville,* Mauritius.
Muscoides, *Swartz,* West Indies.
Krausii, *Hooker and Greville,* Dominica.
Erosum, *Willdenow,* W. Africa.
Pusillum, *Swartz,* Jamaica.
Apodum, *Hooker and Greville,* Barbadoes.
Parvulum, *Poiret,* Java.
Proliferum, *Blume,* Java.
Minutum, *Blume,* Java.
Bifolium, *Blume,* Java.
Digitatum, *Swartz,* Mauritius.
Flabellatum, *Bory,* Falkland Islands.
Cuspidatum, *Willdenow,* Bourbon.
Intramaringale, *Hooker and Greville,* Ceylon.

Quercifolium, *Hooker and Greville*, Esmeraldas.
Sinuosum, *Richard*, Guadaloupe.
Incisium, *Kaulfuss*, Brazil.
Ankersii, *Parker*, British Guiana.
Brachypus, *Kunze*, Trinidad.
Kaulfussii, *Hooker and Greville*, Jamaica.
Trigonum? *Desvaux*, Guiana.
Attenuatum, *Hooker*, Jamaica.
Alatum, *Swartz*, Jamaica.
Bancroftii, *Hooker and Greville*, Jamaica.
Floribundum, *Hooker*, Jamaica.
Pennatum, *Kaulfuss*, Cayenne.
Javanicum, *Blume*, Java.
Fuscum, *Blume*, Java.
Crispum, *Linnæus*, West Indies.
Auriculatum, *Blume*, Java.
Heterophyllum? *Hooker*, Orinoco.
Rigidum, *Swartz*, Jamaica.
Millefolium, *Desvaux*, Brazil.
Elongatum, *Cunningham*, New Zealand.
Giganteum, *Bory*, Bourbon.
Longisetum, *Bory*, Bourbon.
Maximum, *Blume*, Java.
Lambertianum, *Hooker*, Peru.
Pallidum, *Blume*, Java.
Dissectum, *J. Smith*, Luzon.
Melanorhizon, *Hooker*, Philippine Islands.
Tamarisciforme? *Jacquin*, Mauritius.
Tenuifolium? *Cavanilles*, Chiloe.
Diffusum? *Blume*, Java.
Cupressoides? *Desvaux*, Seychelles Isles.
Humile, *Forster*, New Zealand.
Pyxidiferum, *Linnæus*, West Indies.
Filicula, *Bory*, Mauritius.
Radicans, *Swartz*, Europe.
Kunzeanum, *Hooker*, Peru.
Glauco-fuscum, *Hooker*, Pacific Islands.
Guineense? *Swartz*, Sierra Leone.
Arbuscula? *Desvaux*, Guiana.
Striatum, *Don*, Nepal.
Thujoides? *Desvaux*, Mauritius.
Album? *Blume*, Java.
Pellucens, *Kunze*, Peru.
Plumosum, *Kunze*, Peru.
Crinitum, *Swartz*, Jamaica.
Depauperatum? *Bory*, Onalan.
Venosum, *Brown*, New Holland.
Cæspitosum, *Hooker*, Statin Land.
Anceps, *Hooker*, Brazil.
Fæniculaceum, *Bory*, Mauritius.
Myriophyllum, *Desvaux*, Madagascar.
Bifidum, *Ventenat*, East Indies.
Strictum, *Menzies*, New Zealand.
Meifolium, *Bory*, Bourbon.
Polyanthos, *Hooker*, Pacific Isles.
Smithii, *Hooker*, Philippine Islands.
Lucens, *Swartz*, Jamaica.
Scandens, *Linnæus*, Jamaica.
Angustatum, *Carmichael*, Brazil.
Exsectum, *Kunze*, Juan Fernandez.
Trichoideum, *Swartz*, Jamaica.
Parviflorum? *Poiret*, Madagascar.

Lanceolatum? *Du Petit-Thouars*, Madagascar.
Stylosum? *Poiret*, Madagascar.
Davallioides? *Gaudichaud*, Sandwich Isles.
Venustum? *Desvaux*, Brazil.

Besides the eighty-seven species just enumerated, Sir W. J. Hooker remarks on the following:—

T. undulatum, *Wallich*, Mauritius. "Unknown to me."

T. compressum, *Desvaux*. "Not seen."

T. alchemillæfolium, *Wallich*, Mauritius. "Probably T. meifolium, or T. achilleæfolium."

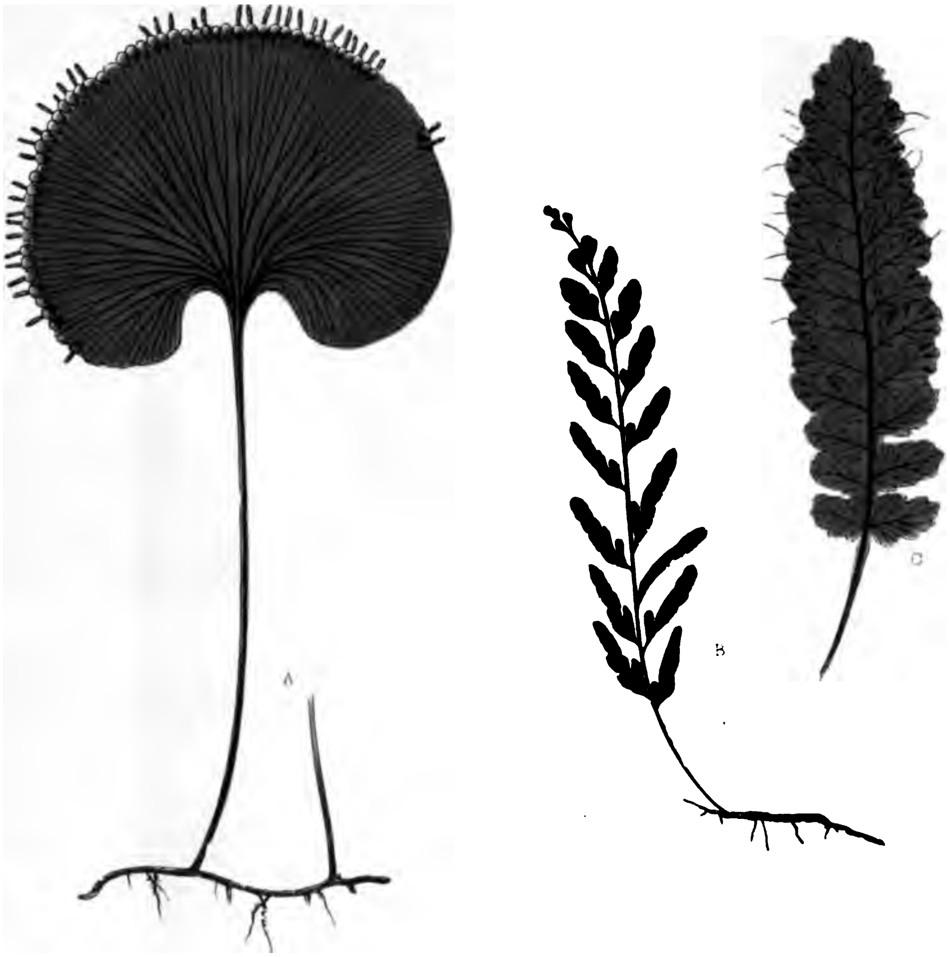
T. cormophyllum, *Kaulfuss*. "Abortive pinnæ of Alsophila capensis."

T. capillatum, *Taschner*. "Presl says Didymoglossum capillatum."

T. flabellatum, *Bory*. "Perhaps T. digitatum, *Swartz*."

T. adiantinum, *Bory*, Mauritius. "No remark."

T. loreum, *Bory*. "Same as T. lanceum, *Willdenow*."



TRICHOMANES RENIFORM. T. VENOSUM. T. BANCROFTII.

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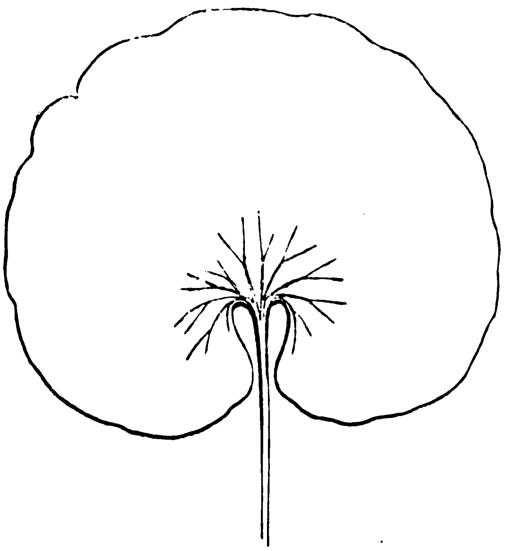


Mature barren Frond.

TRICHOMANES RENIFORME.

FORSTER. HOOKER AND GREVILLE. J. SMITH.
HEDWIG. SWARTZ. WILLDENOW.
SOLANDER. BANKS. SPRENGEL. MOORE.

PLATE IX.—A. VOL. VIII.

Trichomanes—From the Greek—Soft hair. *Reniforme*—Kidney-shaped.

A CHARMING rare erect Fern.

An evergreen greenhouse species.

Native of New Zealand, where it has been found by Banks, Solander, and Forster.

Fronds coriaceous, glabrous, simple, stipitate, reniform in shape, decurrent on the stipes, lateral, and semi-pellucid.

Rhizoma slender, creeping, and very long.

Veins dichotomous, close, radiating from the base.

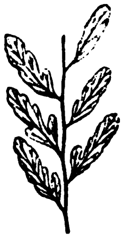
Sori contiguous, marginal, terminating almost every vein, cuneato-cup-shaped; columella exserted. The sori are arranged on the circular margin, like the 'cogs' of a wheel.

Length about four to six inches. Colour dark shining green. Width from two to three inches.

For fronds my thanks are due to Mr. J. Smith, Curator of the Royal Gardens, Kew, and Mr. R. Sim, of Foot's Cray.

It may be procured of Mr. Sim.

The illustration is from Mr. Smith's frond.



Portion of mature Fron

TRICHOMANES VENOSUM.

BROWN. HOOKER AND GREVILLE.

PLATE IX.—B. VOL. VIII.

Trichomanes—From the Greek—Soft hair. *Venosum*—Veiny.

A PIGMY Jungermannia-looking very filmy Fern, found always on the trunks of trees, and very distinct.

An evergreen greenhouse species.

Native of New Holland, Tasmania, and New Zealand, where it has been found by Dr. J. D. Hooker, Gunn, Brown, Cunningham, Menzies, and Bynoe.

Fronds pinnate, small, thin, very delicate and glistening; pinnæ linear, remote, sinuate, occasionally sub-bipinnatifid, upper pinnæ coadunate. Costa and veins wavy.

Involucre sunk, and urceolate-cylindrical; mouth spreading and entire. Stipes very slender and filiform.

Caudex very slender, creeping, elongate, and filiform.

Length of frond from two to five inches. Colour grassy green. Width half an inch.

For fronds my thanks are due to Mr. R. Sim, of Foot's Cray.

It may be procured of Mr. R. Sim.

The illustration is from Mr. Sim's frond.

Portion of fertile Frond—under side.

TRICHOMANES BANCROFTII.

Hooker and Greville.

PLATE IX.—C. VOL. VIII.

Trichomanes coriaceum, Kunze.

Trichomanes—From the Greek—Soft hair. *Bancroftii*—Named after Bancroft, a Jamaica physician and botanist.

A rare dwarf species, with wavy crispy-looking pellucid fronds, radiating from a small crown.

An evergreen stove Fern.

Native of Jamaica, St. Vincent, Surinam, Peru, Brazil, and British Guiana.

Fronds ovate, occasionally subdeltoid, deeply pinnatifid, sometimes bi-tripinnatifid, tufted, rigid, glabrous, or nearly so, segments approximate, oblong in form, usually entire, occasionally sinuato-pinnatifid, or profoundly pinnatifid.

Stipes and rachis winged, with a very broad wing extending almost to the base of the stipes.

Involucres entirely sunk in the apices of the ultimate segments, cuneato-cylindrical in form, the mouth spreading.

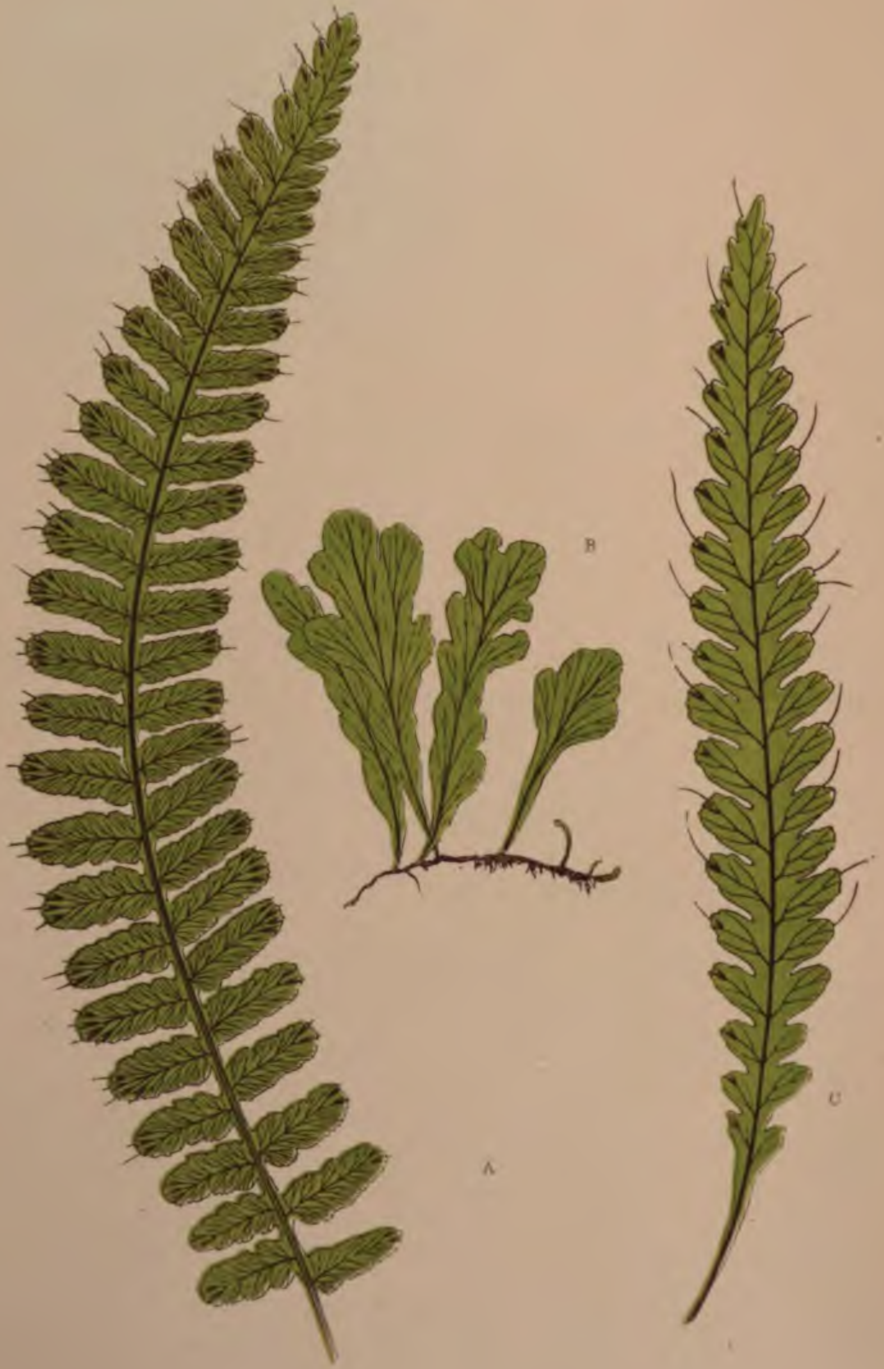
Caudex short and creeping.

Length of frond from one to six inches. Colour deep green. Width one inch.

My thanks are due to Mr. Sim, of Foot's Cray, for fronds.

It may be procured of Mr. Sim.

The illustration is from Mr. Sim's frond.



TRICHOMANES CRISPUM. T. MUSCOIDES. T. SINUOSUM.

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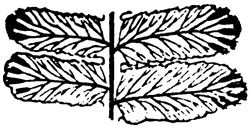


Portion of fertile Frond—under side.

TRICHOMANES CRISPUM.

LINNÆUS. PLUMIER. HOOKER AND GREVILLE. J. SMITH.
WILLDENOW. HEDWIG. KUNZE. SPRENGEL. MOORE.

PLATE X.—A. VOL. VIII.

Trichomanes fastigiatum,	SIEBER.
“ *cristatum,*	KAULFUSS. SPRENGEL.
“ *pilosum,*	RADDI. MARTIUS.
“ *longifolium,*	DESVAUX. PLUMIER.
“ *pellucens,*	KUNZE. LIEBMANN.
“ “	HOOKER. PŒPPIG.
“ *plumosum,*	KUNZE. HOOKER.

Trichomanes—From the Greek—Soft hair. *Crispum*—Curled.

A VERY handsome wiry species, rare in cultivation.

An evergreen stove Fern.

Native of South and Tropical America, the West Indies, Brazil, Peru, Surinam, Mexico, and Jamaica.

Introduced into the Royal Gardens, Kew, in 1851.

Fronds sub-pinnate, hairy, segments linear-oblong, rounded at the apex, and decurrent at the base, forming a winged rachis. Fronds terminal and very membranous.

Rhizoma short and creeping.

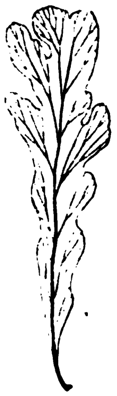
Sori situated on the apex of the segments, vertically oblong, and having the free prolongation of the vein exserted far beyond the margin of the indusium.

Length six to ten inches. Colour a grassy green.

For fronds my thanks are due to Mr. D. Moore, of the Glasnevin Botanic Gardens, Dublin; and to Mr. Gray, of St. Thomas', Exeter.

It may be procured of Mr. Sim, of Foot's Cray.

The illustration is from a frond sent by Mr. Moore, and was gathered from a plant imported from Jamaica.



Young sterile Frond--under side.

TRICHOMANES MUSCOIDES.

SWARTZ. HOOKER AND GREVILLE. WILLDENOW.

PLATE X.—B. VOL. VIII.

Trichomanes hymenodes, HEDWIG.

Trichomanes—From the Greek—Soft hair. *Muscoides*—Moss-like.

A CURIOUS elegant mossy or Jungermannia-looking plant, rare in cultivation and very delicate. It has pellucid fronds, somewhat oak-leaf-shaped, which rise singly from very slender, dark, creeping stems.

An evergreen stove Fern.

Native of the West Indies, Jamaica, Hispaniola, Dominica, St. Vincent, and Java.

Fronds minute, erect, simple, oblong-lanceolate, nearly sessile, glabrous, sinuato-pinnatifid, having an intramarginal vein; reticulations minute, in parallel lines.

Veins—a central costa, from which lateral veins diverge at very oblique angles, and are simple or dichotomous.

Involucres cuneate, wholly sunk, the mouth spreading very wide, and being level with the margin.

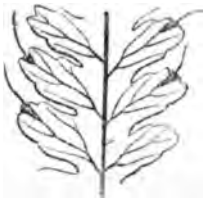
Caudex creeping and tomentose.

Length of frond from two to three inches. Colour a fresh grassy green. Width half an inch.

I am indebted to Mr. Sim for a plant of this species.

It may be procured of Mr. Sim, of Foot's Cray.

The illustration is from Mr. Sim's plant.



Portion of fertile Frond—under side.

TRICHOMANES SINUOSUM.

RICHARD. LAMARCK. HOOKER AND GREVILLE.

PLATE X.—C. VOL. VIII.

Trichomanes quercifolium,	DESVAUX. BORY. (*Not of* HOOKER AND GREVILLE.)

Trichomanes—From the Greek—Soft hair. *Sinuosum*—Bended.

A RARELY-CULTIVATED Fern, with exceedingly thin membranaceous, pellucid fronds.

An evergreen stove species.

Native of Guadaloupe, and other West Indian Islands.

Fronds pinnatifid, lanceolate in form, tapering into a stipes; segments oblong-obtuse, sinuato-lobate; margin hirsute, and usually also on the veins beneath. Thin and almost transparent.

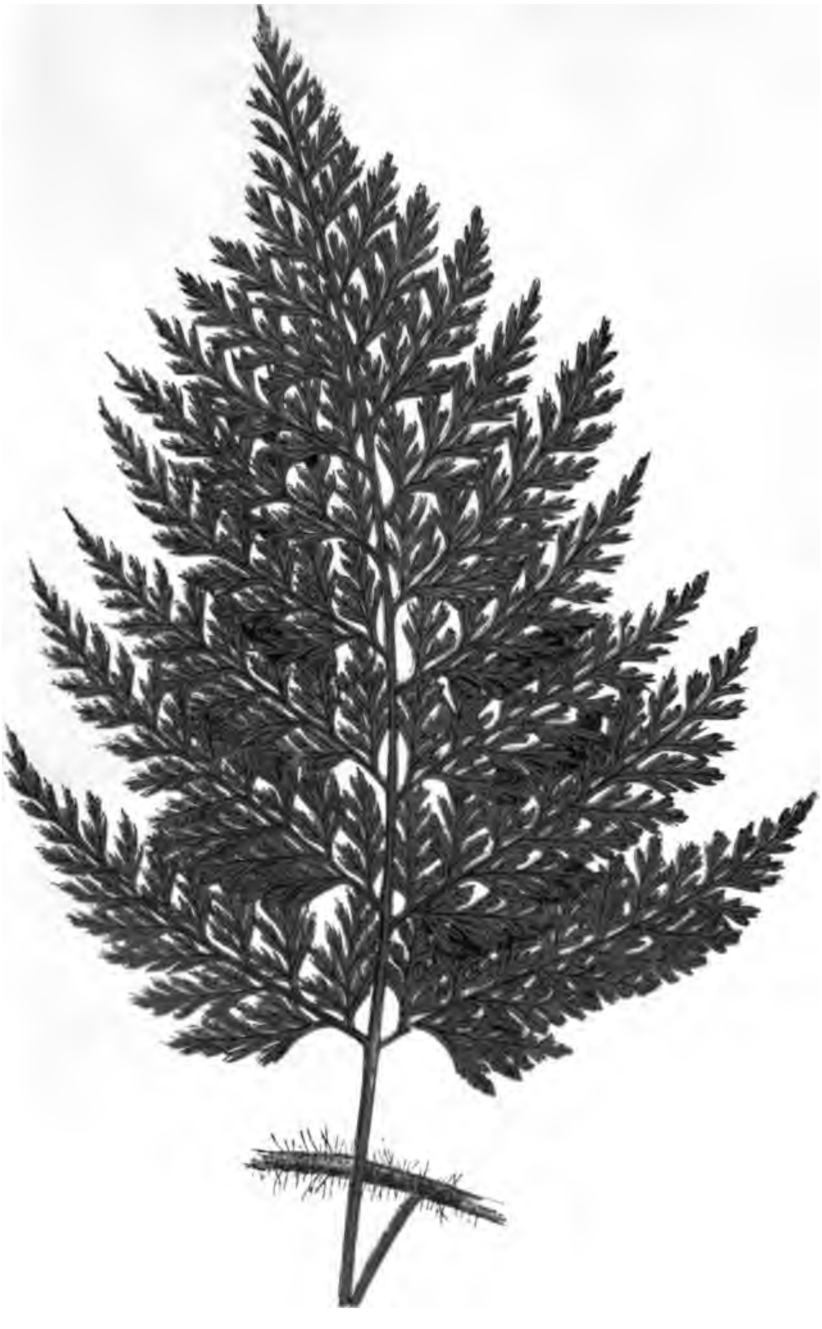
Involucres quite sunk in the segments; mouth spreading, receptacle filiform, and much exserted.

Length of frond from four to nine inches; width half an inch. Colour pale green.

My obligations are due to Mr. Sim for fronds of this Fern.

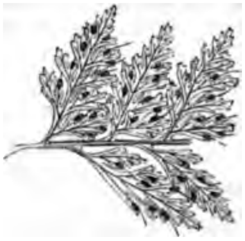
It may be procured of Mr. R. Sim, of Foot's Cray.

The illustration is from Mr. Sim's frond.



TRICHOMANES RADICANS.

XI—VOL. 8.



Portion of fertile Frond—under side.

TRICHOMANES RADICANS.

Swartz. Lindley and Moore. J. Smith. Willdenow.
Sprengel. Kaulfuss. Klotzsch.
Arnott. Deakin. Babington. Sowerry. Presl.
Hooker. (*Not of* Kunze, *nor of* Hooker and Greville.)

PLATE XI. VOL. VIII.

Trichomanes	*speciosum,*	Willdenow. Newman.
"	*pyxidiferum,*	Hudson. Bolton. Withering.
"	"	Hull. (*Not* Linnæus.)
"	*brevisetum,*	R. Brown. J. E. Smith. Link.
"	"	Hooker. Mackay. Macreight.
"	"	Ralfs. Paxton. Galpine.
"	*alatum,*	Hooker. R. Brown. (*Not of* Swartz.)
"	*europæum,*	J. E. Smith.
"	*hibernicum,*	Sprengel.
"	*andrewsii,*	Newman.
"	*scandens,*	Raddi. Martens and Galleotti.
"	"	Hedwig.
"	*diaphanum,*	Kunth.
"	*ambiguum,*	Sieber.
"	*anceps,*	Wallich. (*Not of* Hooker.)
"	*umbrosum,*	Wallich.

Trichomanes radicans, var. *andrewsii*,	Moore. Newman.
" *speciosum*, var. *andrewsii*,	Newman.
" *brevisetum*, var. *andrewsii*,	Henfrey.
Hymenophyllum alatum,	J. E. Smith. Willdenow. (*Not of* Schkuhr.)
" *rupestre*,	Raddi.
" *tunbridgense*, var.,	J.E. Smith. Withering. Hull.
Didymoglossum alatum,	Desvaux.
Filix-humilis repens,	Dillenius.

Trichomanes—From the Greek—Soft hair. *Radicans*—Rooting.

A most beautiful, half-hardy, indigenous species.

Native of Ireland, growing in the counties of Cork, Kerry, Waterford, Wicklow, etc.; and formerly at Bellbank, (twelve miles from Bingley,) Yorkshire. The variety *andrewsii* at Iveragh, Ireland.

Also found in Jamaica, Martinique, Brazil, Mexico, Vera Cruz, Xalapa, Tabasco, Esmeralda, Sandwich Isles, Owhyhee, Oahu, Nepal, Teneriffe, Madeira, Azores, Canaries, Sikkim, Bootan, Mergui, Alabama, Panama, New Grenada, Venezuela, Galapagos, Society Isles, and Equador.

Fronds glabrous, triangularly elongate, apex more or less attenuated; tri-quadripinnatifid, segments entire, linear in form, or bluntly bifid. Pelucido-membranaceous.

Rachis winged, and decurrent on the stipes.

Stipes copiously covered with dark hair-like scales.

Sori solitary, and situated in the axils of the upper segments; extra marginal.

Indusium cylindrical.

Veins branched from the main rachis; in the fertile segment the vein is continued beyond the margin, and forms the receptacle, whilst in the barren segment it does not reach the margin.

Length of frond from six to twenty inches; colour olive green.

Rhizoma perennial and creeping; elongated, tomentose with small dark-coloured hairs.

The stipes is from a fourth to half the length of the entire frond.

This species is known as the Bristle Fern.

The variety *andrewsii* is very distinct, having long narrow fronds, lanceolate-ovate in form, the primary divisions narrow, and, as well as the secondary ones, more distant than in the normal form. Involucres immersed, and the receptacles much elongated. We are indebted to Mr. William Andrews, of Dublin, for the discovery of this handsome variety; he found it in the year 1842, at Iveragh, Ireland.

Trichomanes radicans was found at Bellbank, by Bolton, in the year 1758, and he remarks that it was plentiful in this station; it is now unfortunately only a habitat of days gone by.

In Jamaica, in woods, observed by Swartz, Bancroft, and Purdie. In Brazil, according to Raddi, Forbes, Macrae, Scouler, Gardner, Sinclair, and Vautier, the variety *andrewsii* appears to occur, bearing fronds from six to eighteen inches in length; a similar form exists in the Forest of Esmeraldas, El Equador, according to Colonel Hall. In the Azores, Dr. Hochstetter and Mr. H. C. Watson discovered it at an elevation of from two to three thousand feet above the level of the sea.

This Fern, in a wild state, grows on damp shady rocks, and delights to be within the spray of a waterfall. Under proper cultivation it can be made to be even more handsome than when growing in its own wild habitat; on the other hand, under imperfect cultivation, it is an unsightly Fern. It must be borne in mind that the fronds live three or four years, and in the case of barren fronds some have been known to keep green and fresh as long as ten years; it is therefore desirable that they should not be subject to injury.

Mr. Joseph Henderson, of Wentworth, has both the normal form and the variety *andrewsii* growing in magnificent luxuriance; indeed those who have seen it in its wild state, say that the Wentworth specimens eclipse them. Mr. Henderson's plan is to grow it under a large hand-glass, the *top* only of which lifts off, by which means the plant can be examined without injury to the fronds in taking off and putting on the hand-glass. The fronds entirely fill the space allotted to them, like a dense miniature forest. With my own plants I have followed a similar plan; the plants are potted in large saucers, on pieces of broken crock and freestone, with a slight portion of vegetable mould and silver-sand, below which the saucer had been previously well drained, and upon this drainage a layer of sphagnum moss had been laid; this saucer is then placed within a larger one, and the latter filled several inches deep with water, so as to form a canal of water round the plant, upon the whole of which is placed a square hand-glass, opening at the top, and having several holes, in order to carry off the superfluous moisture. By this means the plant is always properly damp, and yet no amount of vapour remains on the sides of the glass; were it to do so, young fronds touching the sides would rapidly decay. Before I used this plan my fronds were always turning a blackish colour, even when quite young; now the fresh greenness is retained with them all, and even those that were discoloured, have in part regained their greenness.

The creeping almost black hirsute rhizoma attaches itself to the stones, and over the edges of the saucer, in the manner of ivy. This plant requires shade as well as moisture to induce a healthy growth, and it will either flourish in a stove or greenhouse—the latter appears to be its favourite climate.

Dr. Forbes Young shewed me plants growing on the rocks in his stove fernery under the shade of large Ferns and climbing plants, without any covering over it, and they appeared to be in excellent condition.

Mr. Moore mentions that "Mr. Calwell, a very successful grower of this species, received in the spring of 1843 a small portion of rhizoma with one partially-developed frond, and another just appearing, and this was placed within a bell-glass, about fifteen inches in diameter. In December, 1846, it had quite filled the glass, and was removed into a case, three feet ten inches by two feet six inches, and three feet four inches high. The space beneath for about twelve inches in depth, was filled with up-turned flower-pots, charcoal, cocoa-nut husks, and light earth and peat. The plant, in 1852, had filled this case also, having about two hundred and thirty fully-developed fronds, of from fourteen to twenty inches in length. When removing it to the case, in 1846, five or six fronds which had been injured by contact with the glass, were cut away, but since that time, up to 1852, not one of the fronds then existing, nor any of those subsequently formed, had shewn any symptoms of decay." It will thus be apparent that this Fern is, from its great beauty, as well as from the durability of its fronds, worthy of the slight extra trouble attending upon its proper management.

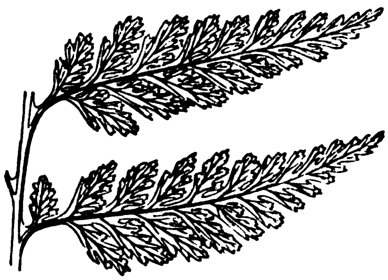
The *Hymenophyllums* glory in a similar treatment.

Introduced into the Royal Gardens, Kew, in 1793.

For plants my thanks are due to Mr. William Andrews, of Dublin; Mr. James, of Vauvert; and to Mr. Joseph Henderson, of Wentworth; and for the variety *andrewsii* also to Mr. Andrews and Mr. J. Henderson.

It is in the Catalogues of Messrs. Sim, of Foot's Cray; Rollisson, of Tooting; A. Henderson, of Pine-apple Place; and Booth, of Hamburg.

The illustrations are from plants in my own collection.



Portion of a frond of the variety *andrewsii.*

GENUS III.

DAVALLIA. SWARTZ.

THE genus *Davallia* has been divided into several families, as *Humata, Davallia, Leucostegia, Odontosoria,* and *Microlepia.* Sir W. J. Hooker, in his "Species Filicum," connects them all together again; and indeed the similarity in many respects is so striking that it did not seem wise to change the tribe comprising *Davallia* into half a dozen families, and we therefore must feel obliged to Sir William Hooker for removing a number of unnecessary names, as far as genus is concerned.

Those Ferns constituting *Humata* have linear-lanceolate, entire, pinnatifid, or deltoid-bipinnatifid fronds; those of *Davallia* usually deltoid, pinnate, or bi-tripinnate. In *Leucostegia* deltoid, tripinnatifid, or multifid; occasionally lanceolate and bipinnatifid. In *Odontosoria* bi-tripinnatifid, lanceolate, or deltoid. In *Microlepia* pinnate or bi-tripinnatifid.

Veins forked; venules free.

Sori terminal and vertical. Indusium tubular, more or less.

Length of frond from three to seventy inches.

Mr. J. Smith gives the following in his "Catalogue of the Ferns cultivated at Kew:"—

- Humata heterophylla, *J. Smith.*
  - pedata, *J. Smith.*
- Davallia pentaphylla, *Blume.*
  - ornata, *Wallich.*
  - solida, *Swartz.*
  - pyxidata, *R. Brown.*
  - elegans, *Swartz.*
  - divaricata, *Blume.*
  - dissecta, *J. Smith.*
  - bullata, *Wallich.*
- Davallia canariensis, *Swartz.*
  - lindleyi, *Hooker.*
- Leucostegia immersa, *Presl.*
  - chærophylla, *J. Smith.*
- Odontosoria tenuifolia, *J. Smith.*
  - aculeata, *J. Smith.*
- Microlepia cristata, *J. Smith.*
  - platyphylla, *J. Smith.*
  - polypodioides, *Presl.*
  - novæ zelandiæ, *J. Smith.*

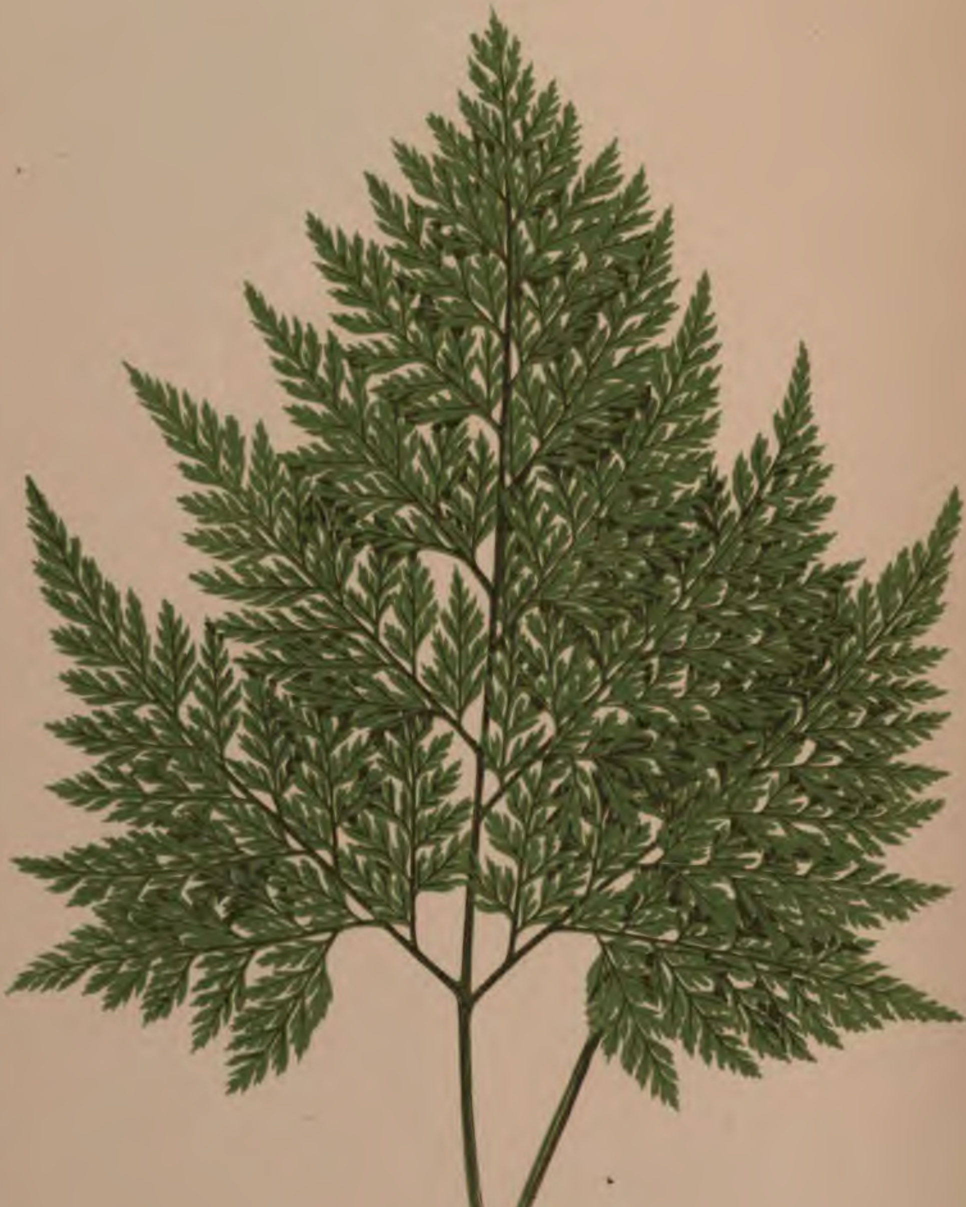
Sir W. J. Hooker, in his "Species Filicum," in his *Davallias* of the whole world gives—

Heterophylla, *Smith*, Malay.
Angustata, *Wallich*, Singapore.
Parallela, *Wallich*, Singapore.
Pectinata, *J. Smith*, Otaheite.
Alata, *Blume*, Java.
Bipinnatifida, *Blume*, Java.
Novæ zelandiæ, *Colenso*, New Zealand.
Membranulosa, *Wallich*, Nepal.
Falcinella, *Presl*, Malay.
Solida, *Swartz*, Pacific Isles.
Lindleyi, *Hooker*, New Zealand.
Caudata, *Cavanilles*, Philippine Islands.
Patens, *Swartz*, East Indies.
Decurrens, *Hooker*, Philippine Isles.
Canariensis, *Smith*, Canary Isles.
Pyxidata, *Cavanilles*, New Holland.
Calvescens, *Wallich*, Kamoun.
Khasiyana, *Hooker*, India.
Lonchitidea, *Wallich*, Nepal.
Pinnata, *Cavanilles*, Philippine Isles.
Luzonica, *Hooker*, Luzon.
Serrata, *Blume*, Java.
Boryana, *Presl*, Bourbon.
Trichosticha, *Hooker*, Isle of Samar.
Ciliata, *Hooker*, Luzon.
Gracilis, *Blume*, Java.
Moluccana, *Blume*, Moluccas.
Splendens, *Blume*, Isle of Banda.
Brasiliensis? *Hooker*.
Manilensis? *Hooker*.
Humilis? *Hooker*.
Aculeata, *Swartz*, West Indies.
Fumarioides, *Swartz*, West Indies.
Gibberosa, *Swartz*, Pacific Isles.
Lindeni, *Hooker*, Caraccas.
Schimperi, *Hooker*, Abyssinia.
Concinna, *Schrader*, S. Africa.
Pedata, *Swartz*, Mauritius.
Intramarginalis, *Blume*, Java.
Sessilifolia, *Blume*, Java.
Belangeri, *Bory*, Java.
Immersa, *Wallich*, India.
Nodosa, *Hooker*, Java.
Chærophylla, *Wallich*, India.
Parvula, *Wallich*, Singapore.
Pulchra, *Don*, Nepal.
Bipinnata? *Hooker*, West Indies.
Mauritiana, *Hooker*, Mauritius.
Elegans, *Swartz*, China.
Nitidula, *Kunze*, Africa.
Divaricata, *Blume*, Java.
Polyantha, *Hooker*, Singapore.
Vogelii, *Hooker*, Fernando Po.
Saccoloma, *Sprengel*, Brazil.
Imrayana, *Hooker*, Dominica.
Pulchella, *Hooker*, Luzon.
Parkeri, *Hooker*, British Guiana.
Hemiptera, *Bory*, Java.
Adiantifolia, *Hooker*, Molucca.
Kunzeana, *Hooker*, Java.
Blumeana, *Hooker*, Java.
Tenuifolia, *Swartz*, East Indies.
Trichomanoides, *Blume*, Java.
Chinensis, *Swartz*, China.
Clavata, *Swartz*, West Indies.

Retusa, *Cavanilles*, Philippine Isles.
Bifida, *Hooker and Greville*, Brazil.
Goudotiana, *Kunze*, Madagascar.
Schlechtendahlii, *Presl*, Mexico.
Meifolia, *Hooker*, Caraccas.
Glauca? *Cavanilles*, Peru.
Hirsuta? *Swartz*, Japan.
Magellanica? *Desvaux*, Magelhaens.
Pellucida? *Desvaux*.
Urophylla? *Wallich*, Sylhet.
Cordifolia? *Roxburgh*, Rohilcunde.
Serrata? *Roxburgh*, Prince of Wales Island.
Serrata, *Willdenow*, Marianne Isles.
Alpina, *Blume*, Java.
Cumingii, *Hooker*, Philippine Isles.
Vestita, *Blume*, Java.
Affinis, *Hooker*, Luzon.
Emersoni, *Hooker and Greville*, Ceylon.
Contigua, *Swartz*, Pacific Isles.
Preslii, *Hooker*, Luzon.
Triphylla, *Hooker*, Singapore.
Pentaphylla, *Blume*, Java.
Elata, *Swartz*, Otaheite.
Fejeensis, *Hooker*, Fejee.
Mucronata, *Blume*, Java.
Griffithiana, *Hooker*, India.
Bullata, *Wallich*, Nepal.
Hookeriana, *Wallich*, Assam.
Villosa, *Wallich*, Nepal.
Amboynensis, *Hooker*, Amboyna.
Inæqualis, *Kunze*, Peru.
Distans, *Kaulfuss*, Brazil.
Hirta, *Kaulfuss*, Sandwich Isles.
Polypodioides, *Don*, Tropics.
Proxima, *Blume*, Java.
Jamaicensis, *Hooker*, Jamaica.
Thecigera, *Hooker*, Venezuela.
Cuneiformis, *Swartz*, Pacific Isles.
Biflora, *Kaulfuss*, Manilla.
Triloba? *Willdenow*, Hispaniola.
Trifoliata? *Swartz*, Hispaniola.
Capillacea? *Willdenow*, Hispaniola.
Thalictroides? *Presl*.
Flexuosa? *Sprengel*.
Pilosa? *Roxburgh*, Ganges.
Trapeziformis? *Roxburgh*, Malaccas.
Cuneifolia? *Hooker*.

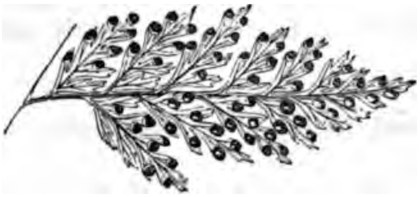
Sir W. Hooker describes one hundred and twelve species in the genus *Davallia*.

We have no British representative.



DAVALLIA CANARIENSIS.

XII—VOL. 8.



Pinna of fertile Frond—under side.

DAVALLIA CANARIENSIS.

SWARTZ. HOOKER. LODDIGES. SMITH. WILLDENOW.
LINK. J. SMITH. KUNZE. H. LOWE. FINLAY.
SALTZMANN. MASSON. LEMANN. FEE.
SCHOTT. PAXTON. PRESL. KAULFUSS. SPRENGEL.

PLATE XII. VOL. VIII.

Trichomanes canariensis,	LINNÆUS. JACQUIN.
Polypodium lusitanicum,	LINNÆUS.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Canariensis—Canary Island.

AN old favourite, known as the Hare's Foot Fern, and certainly a beautiful species. It has been cultivated in our greenhouses one hundred and sixty years.

An evergreen greenhouse Fern.

Native of South Europe, Madeira, Canary Islands, Portugal, and Tangiers.

Introduced into the Royal Gardens, Kew, as long ago as 1699.

Fronds glabrous, triangular in form, three-branched, supradecompound, primary pinnæ very broad, pinnules lanceolate, profoundly pinnatifid, base decurrent, segments linear-dentate or bidentate. Fronds lateral and subcoriaceous.

Sori solitary, terminal, and cuneato-cup-shaped.

Rhizoma caudiciform, brief, stout, densely scaly, and somewhat scandent.

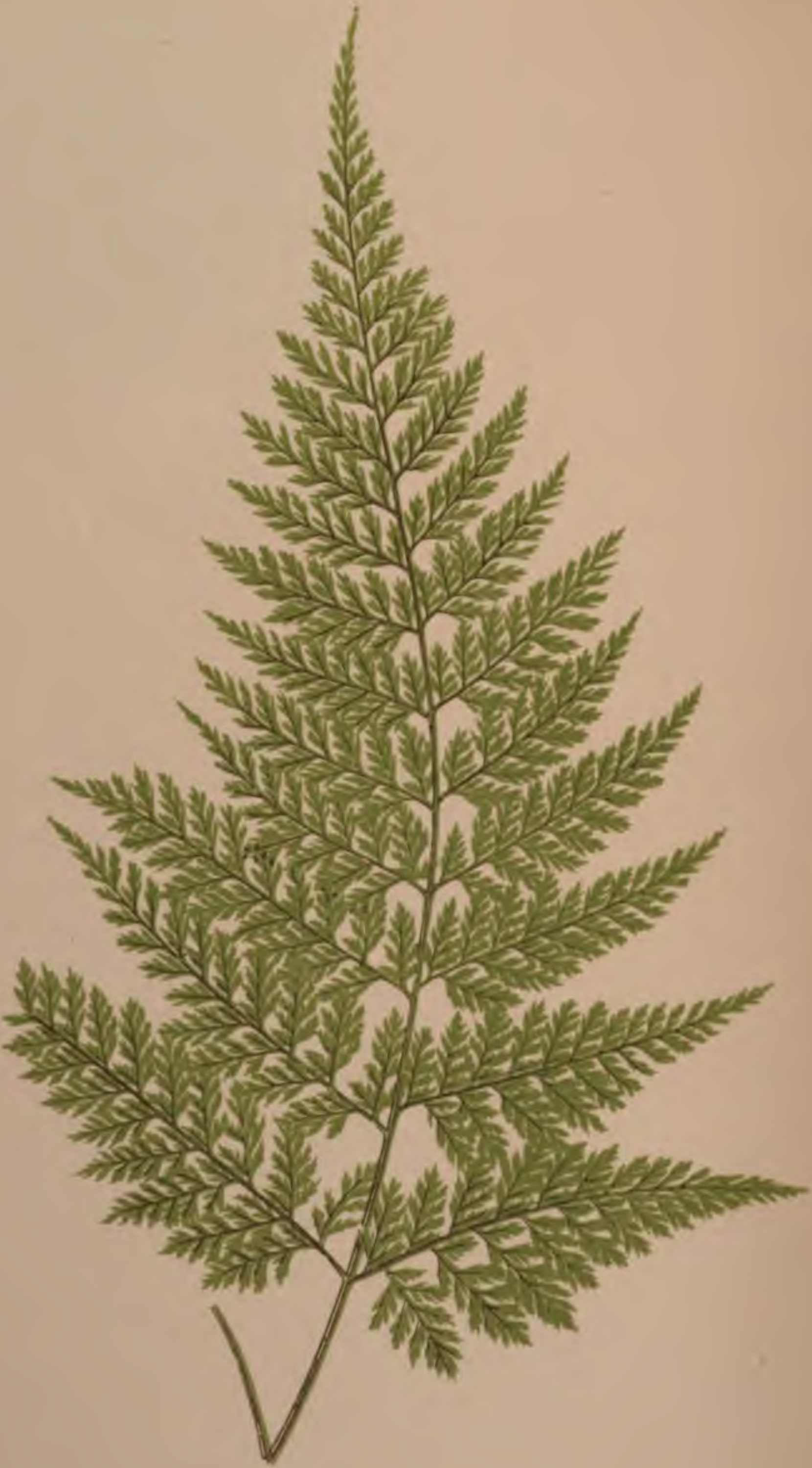
Veins forked.

Length of frond twelve to eighteen inches. Colour a rich green.

For plants my thanks are due to M. Schott, Director of the Imperial Gardens of Schonbrünn; and to Mr. R. Sim, Foot's Cray, Kent.

It may be procured of any Nurseryman.

The illustration is from a plant in my own collection.



DAVALLIA CHÆROPHYLLA.

XIII—VOL. II.

Sterile Pinna.

DAVALLIA CHÆROPHYLLA.

WALLICH. HOOKER. FEE. PRESL.

PLATE XIII. VOL. VIII.

Leucostegia chærophylla,	J. SMITH.
" *ligulata,*	J. SMITH.
" *pulchra,*	J. SMITH.
Davallia pulchra,	WALLICH. DON.
" "	SPRENGEL. HOOKER.
Acrophorus chærophyllus,	MOORE.
" *pulcher,*	MOORE.
Cystopteris squamata,	DECAISNE.
Humata chærophylla,	METTENIUS.
Aspidium hymenophylloides,	BLUME.

Davallia—Named in honour of E. Davall, a Swiss Botanist.
Chærophylla—Chervil-leaved.

IN THE SECTION LEUCOSTEGIA OF AUTHORS.

A CHARMING delicate-looking plant, rare in cultivation in this country.

A stove Fern.

Native of the East Indies, Nepal, Simla, Assam, Maamloo, Khasiya, Masuri, Kamaon, Kashmir, Neilgherries, Sirmur, Kunawar, Java, and Penang.

Fronds smooth, ovate-acuminate, flaccid, membranaceous, three to four times pinnate; primary pinnæ oblong-ovate and acuminate, others ovate-obtuse; pinnules lanceolate and profoundly pinnatifid.

Sori rather large, reniform, and situated at the centre of the segment, below the base of the tooth, and at the axil of a pair of veinlets.

Stipes six to eight inches in length, slightly scaly below.

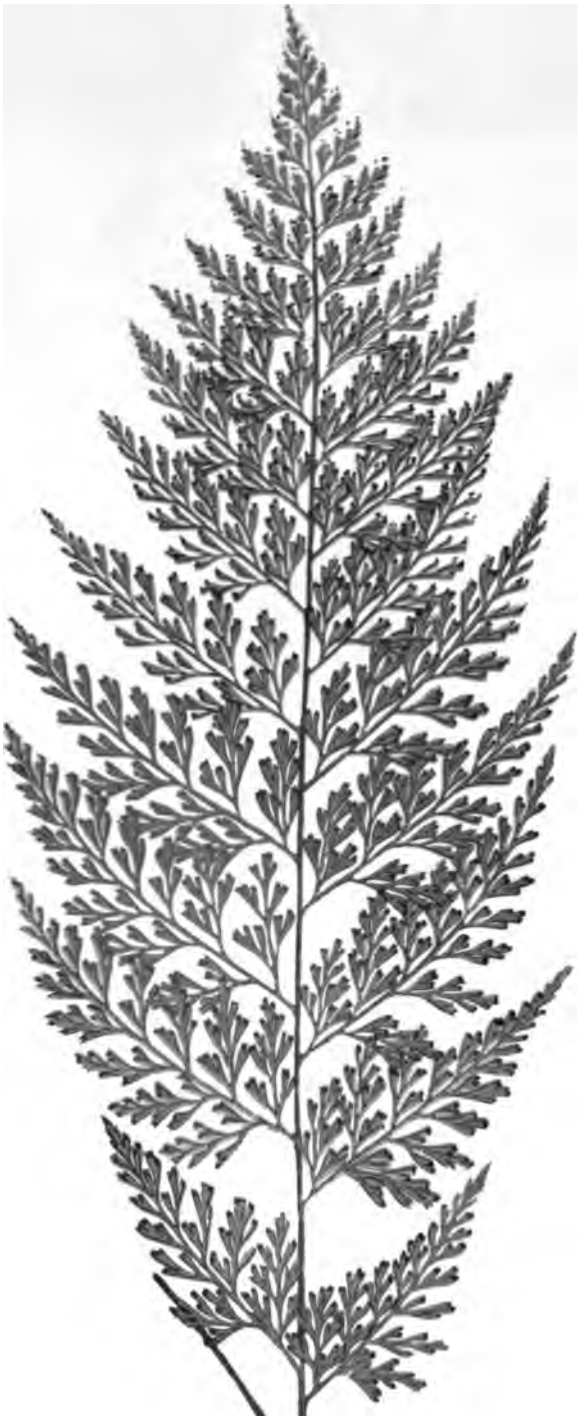
Rhizoma caudiciform, creeping, stout, and clothed with compact, broad, imbricated scales.

Length of frond from twelve to twenty-four inches; colour pale green, and when young slighly pink.

My thanks are due to Mr. D. Moore, Botanic Gardens, Glasnevin, Dublin, for a frond of this Fern.

It may be procured of Messrs. E. G. Henderson, of St. John's Wood, and Sim, of Foot's Cray.

The illustration is from a frond forwarded by Mr. D. Moore.



DAVALLIA TENUIFOLIA.

XIV—VOL. 8.

Pinna—under side.

DAVALLIA TENUIFOLIA.

Swartz. Hooker. Willdenow. Presl. Blume.
Schott. Sprengel. Kunze.
(*Not of* Pœppig, *nor of* Willdenow, Fee, *or* Cuming.)

PLATE XIV. VOL. VIII.

Odontosoria tenuifolia,	J. Smith.
Davallia remota,	Kaulfuss. Hooker & Arnott.
" "	Bory. Duperrey.
" *ferruginea,*	Reinwardt.
Adiantum cuneatum,	Forster. (*Not of* Linnæus, Langsdorff and Fischer, Raddi, Hooker, Smith, Moore, etc.)
Stenoloma tenuifolium,	Fee.

Davallia—Named in honour of Edmund Davall, a Swiss Botanist.
Tenuifolia—Slender-leaved.

In the Section Odontosoria of Authors.

An exceedingly beautiful Fern, not generally met with in ordinary collections, having smooth, slender fronds, and somewhat *Onychium*-looking.

An evergreen stove Fern.

Native of the East Indies, the Malay Archipelago, Java, Assam, Nepal, Ceylon, Madras, Mauritius, China, Sandwich Isles, Madagascar, and Luzon.

Fronds erect, ovate-lanceolate in shape, usually spreading, elongate, glabrous, subcoriaceous, and bi-tripinnatifid; segments approximate, forked, linear-cuneate, and truncate; apex slightly erose.

Rhizoma short and creeping, woolly and caudiciform.

Stipes lengthy.

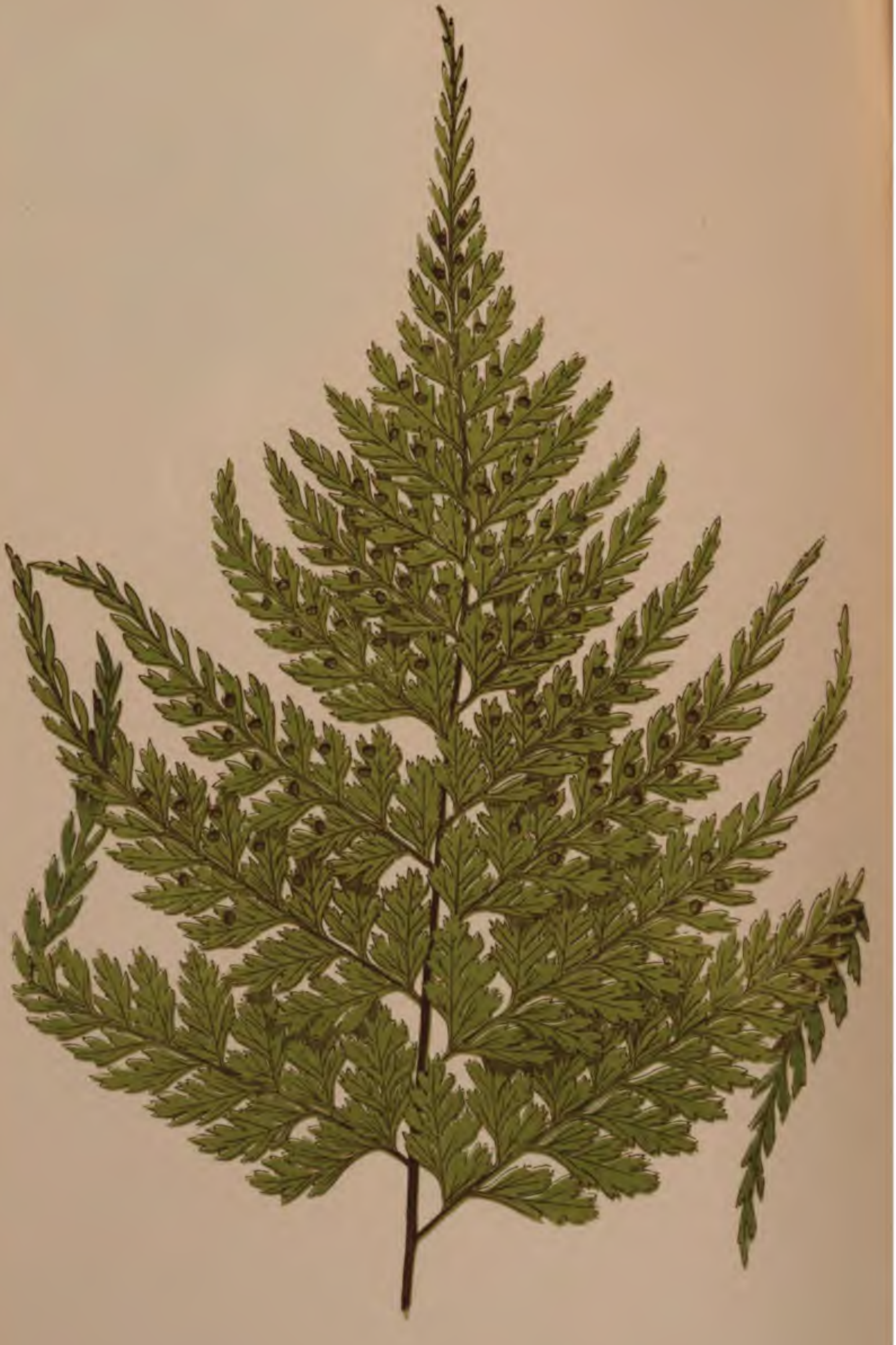
Sori solitary, or in pairs.

Length of frond from eighteen to twenty-four inches; width from four to six inches. Colour a grassy green.

For a plant my thanks are due to M. Schott, Director of the Imperial Gardens, Schonbrünn, Vienna; and for fronds to Sir W. J. Hooker, Director of the Royal Gardens, Kew; Mr. D. Moore, of the Glasnevin Botanic Gardens; to Mr. Joseph Henderson, of Wentworth; and to Mr. G. Norman, of Hull.

It may be procured of all the principal Nurserymen.

The illustration is from a plant in my own collection.



DAVALLIA IMMERSA.—APEX OF FROND.

XV—VOL. 8

Portion of pinna of fertile Frond—upper side.

DAVALLIA IMMERSA.

WALLICH. HOOKER.

PLATE XV. VOL. VIII.

Leucostegia immersa,	PRESL. J. SMITH. HOOKER.
" "	MOORE AND HOULSTON.
Acrophorus immersus,	MOORE.
Humata immersa,	METTENIUS.
Cystopteris dimidiata,	DECAISNE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Immersa—Immersed, because the spore-cases are sunk within the frond.

IN THE SECTION LEUCOSTEGIA OF AUTHORS.

A VERY beautiful delicate-looking peculiar pale green slender Fern.

A deciduous stove species.

Native of the East Indies and Northern India, Nepal, Assam, Mussoorie, Khasya, Kashmir, Sikkim, Moulmein, and Java.

Imported into England in 1849, by Messrs. Rollisson, of Tooting.

The fronds glabrous, deltoid, bi-tripinnate, the pinnæ alternate, triangularly-elongate, pinnatifid, ovate-lanceolate; apices caudate. Pinnules alternate, profoundly pinnatifid, oblong in shape, and membranaceous, opaque; segments somewhat ovate; apex bluntly toothed or bifid.

Fronds lateral. Stipes six to twelve inches in length, brownish beneath, green above.

Rhizoma creeping, downy, and fibrous.

Veins forked, venules direct and free. Veins indistinct, except at the free apices.

Spore cases vertical. Sori circular, terminal, and situated in the sinus close to the margin. Indusium orbicular and large.

Length of frond usually twelve to eighteen inches; my plant has fronds twenty-eight inches in length. Colour very pale yellowish green.

For plants my thanks are tendered to Mr. Masters, Exotic Nursery, Canterbury; and to Mr. R. Sim, of Foot's Cray, Kent; and for fronds to Mr. Joseph Henderson, of Wentworth; and Mr. J. Smith, Royal Gardens, Kew.

It is in the Catalogues of Messrs. E. G. Henderson, St. John's Wood; Sim, of Foot's Cray; Veitch, of Chelsea; Rollisson, of Tooting; A. Henderson, of Pine-apple Place; and Booth, of Hamburg.

The illustration is from a plant in my own collection.

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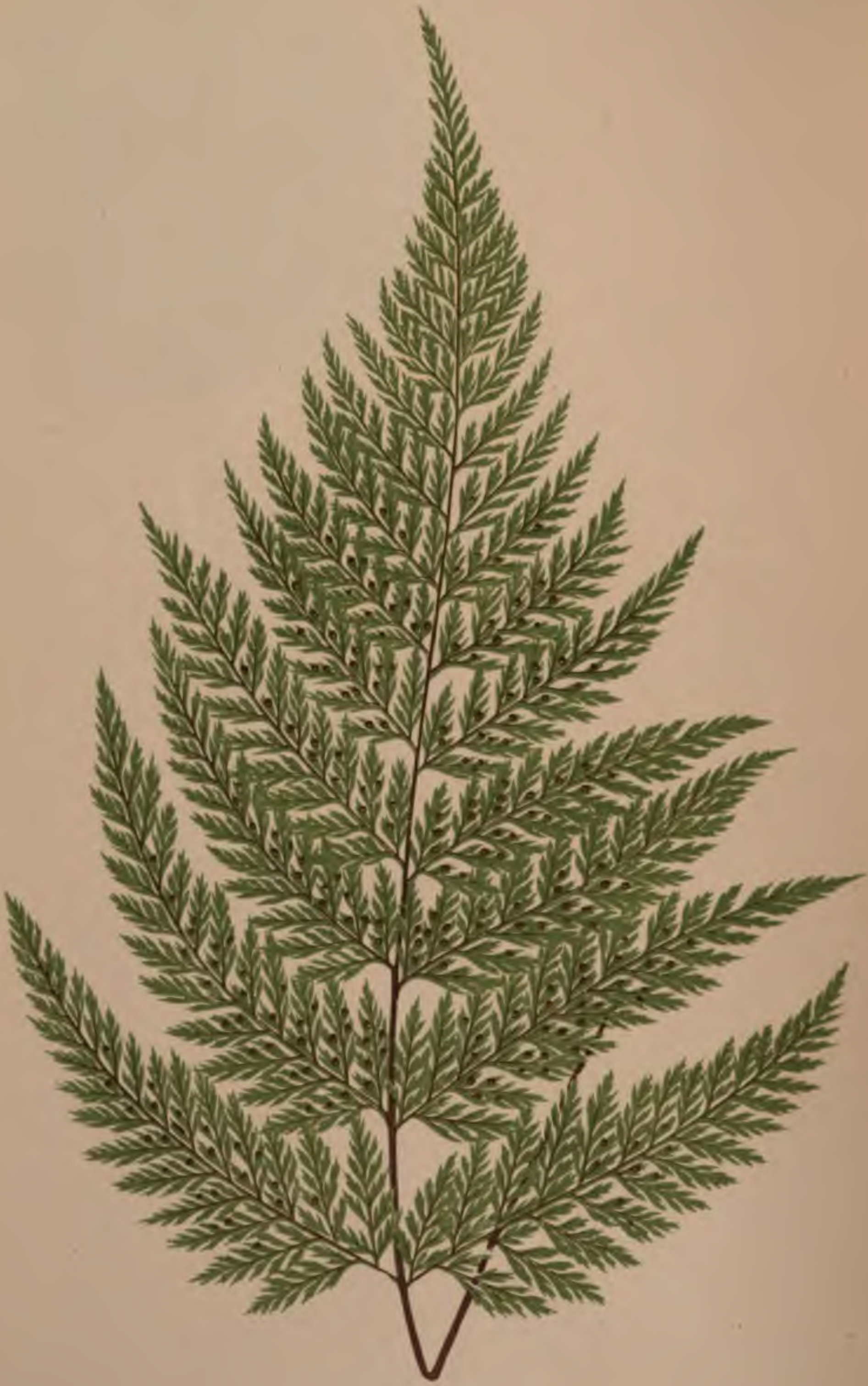
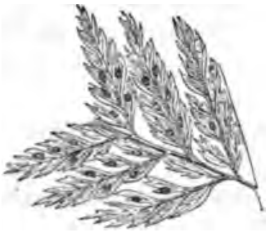


DAVALLIA NOVÆ-ZELANDIÆ.

XVI—VOL. 8.



Portion of pinna of fertile Frond—under side.

DAVALLIA NOVÆ-ZELANDIÆ.

COLENSO. HOOKER. FEE.

PLATE XVI. VOL. VIII.

Microlepia novæ-zelandiæ,	J. SMITH.
Davallia hispida,	HEWARD.
Acrophorus hispidus,	MOORE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Novæ-zelandiæ—New Zealand.

IN THE SECTION MICROLEPIA OF AUTHORS.

AN exceedingly beautiful dwarf Fern, with a close habit, and producing a dense mass of compact fronds. A suitable exhibition plant.

An evergreen greenhouse Fern, preferring a damp atmosphere, and a shady situation.

Native of New Zealand.

Fronds ovate acuminate, membranaceous, tripinnate, divisions distant, ultimate pinnules profoundly pinnatifid, lanceolate, pinnæ sometimes opposite or sub-opposite, but as often alternate and ascending.

Involucres subreniform, situated mostly on the lateral tooth, large, often as large as the segment on which it is situated.

Stipes shining, and mahogany brown in colour; six to eight inches in length.

Rachis shining, and often the same colour as the stipes, flexuose and slender.

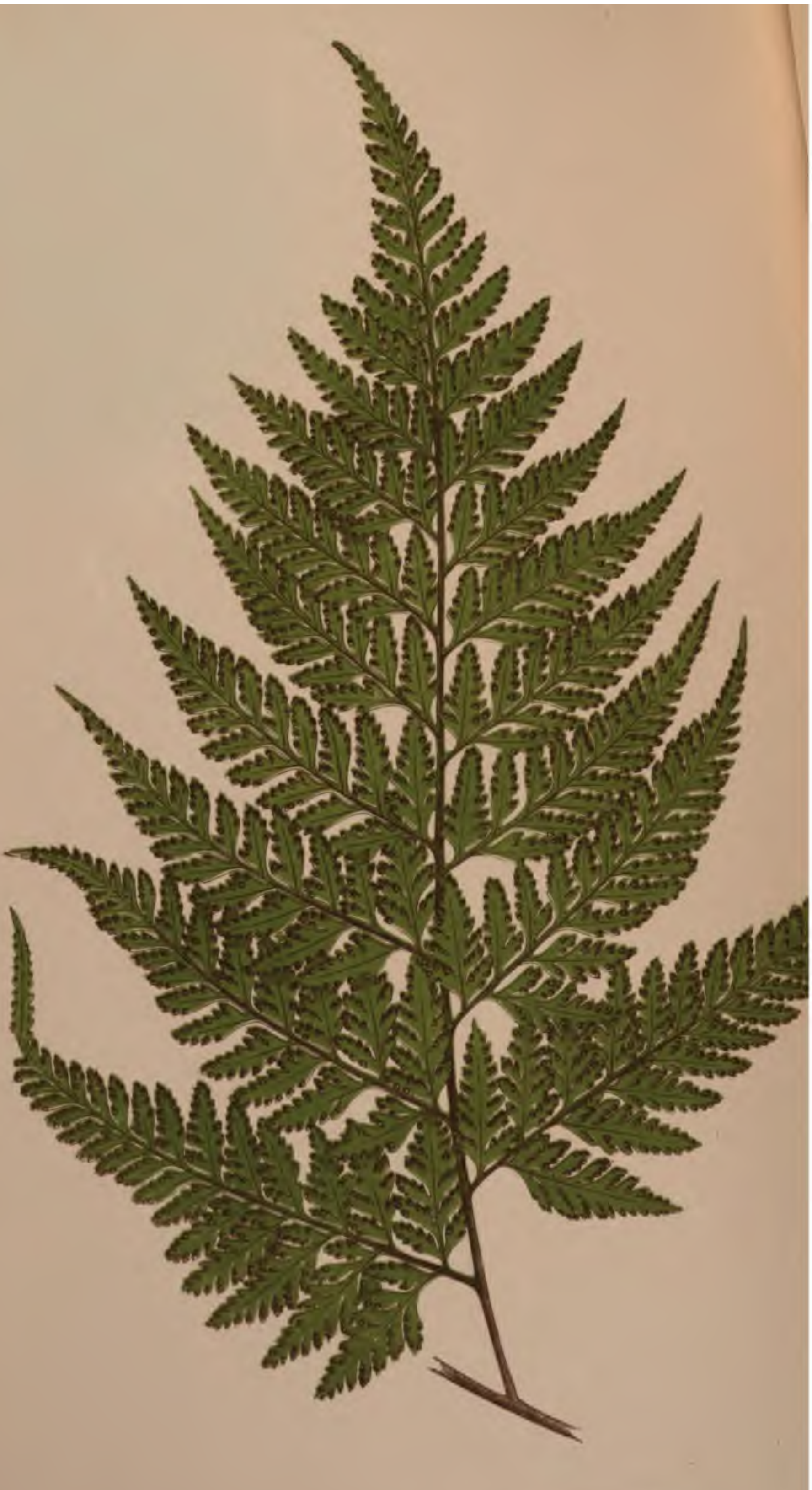
Caudex creeping, slender, hirsute with ferruginous hairs, which are soft and jointed.

Length of frond from eight to twelve inches; width four to five inches. Colour brownish green, somewhat glossy, much paler beneath.

For plants my thanks are due to M. Schott, Director of the Imperial Gardens of Schonbrünn; to Mr. Kennedy, of the Bedford Conservatory, Covent Garden; and to Sir W. J. Hooker, Director of the Royal Gardens, Kew.

It may be procured of Messrs. Veitch, of Chelsea; Rollisson, of Tooting; E. G. Henderson, of St. John's Wood; Sim, of Foot's Cray; Kennedy, of Covent Garden; and Cooling, of Derby.

The illustration is from a plant in my own collection.



DAVALLIA LINDLEYI—PINNA.

XVII—VOL. 8.

Portion of pinna of fertile Frond—under side.

DAVALLIA LINDLEYI.

HOOKER. J. SMITH. FEE.

PLATE XVII. VOL. VIII.

Davallia attenuata, OF GARDENS, (*not of* SCHOTT.)

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Lindleyi—Named after Professor John Lindley, a well-known Botanist of the present day.

A FINE species, as yet rare in cultivation.

A evergreen greenhouse Fern.

Native of New Zealand.

Fronds coriaceous, glabrous, bi-tripinnate, deltoideo-ovate. Pinnæ pinnatifid. Ultimate pinna and segments lanceolate, pinnatifid.

Sterile segments broad.

Sori somewhat half cup-shaped.

Stipes very long.

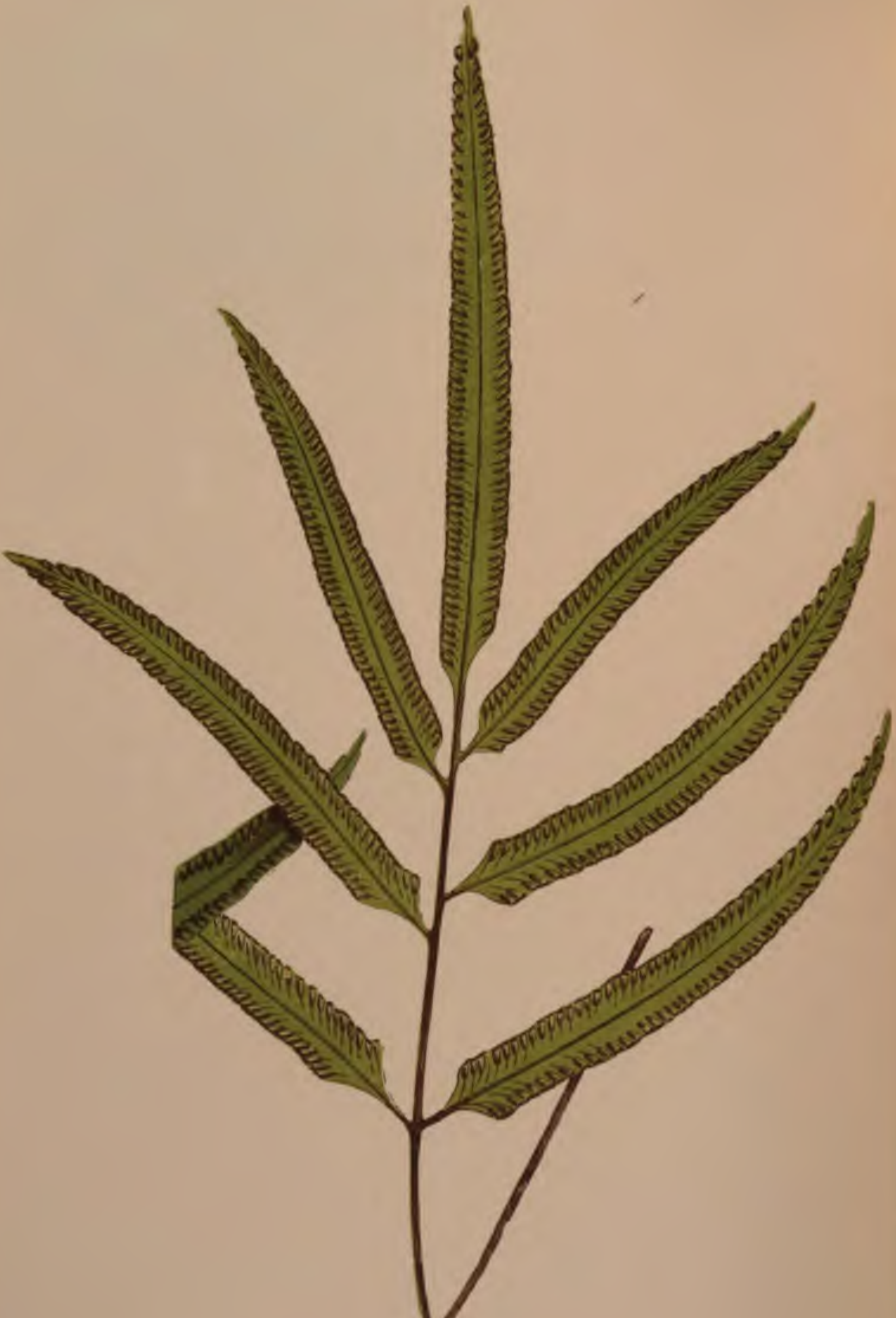
Rhizoma caudiciform, creeping, short, thick, and densely clothed with scales.

Length of frond three feet. Colour rich green.

For fronds my thanks are due to Mr. David Moore, of the Glasnevin Botanic Gardens; and to Mr. J. Smith, Royal Gardens, Kew.

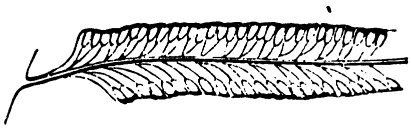
It is not in any of the Nurserymen's Catalogues.

The illustration is from Mr. Moore's frond.



DAVALLIA PENTAPHYLLA.

XVIII—VOL. 8.



Portion of pinna of fertile Frond—under side.

DAVALLIA PENTAPHYLLA.

BLUME. KUNZE. J. SMITH. HOOKER. ZOLLINGER.
MOORE AND HOULSTON.

PLATE XVIII. VOL. VIII.

Scyphularia pentaphylla, FEE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Pentaphylla—Five-leaved.

A DISTINCT pretty dwarf Fern, very suitable for suspension in a basket.

An evergreen stove Fern.

Native of Malayan Archipelago and Java.

Introduced about ten years ago by Messrs. Veitch, of Exeter; and Messrs. Rollisson, of Tooting.

Fronds glabrous, pinnate, pinnæ usually five—two pairs and a terminal one—occasionally three pairs and a terminal one—lanceolate in shape, petiolate, coriaceous, base cuneate, margin crenato-serrate. Length of pinnæ four and a half inches, and terminal one five inches; width of fertile pinnæ three eighths of an inch, and of sterile pinnæ three quarters of an inch.

Fronds lateral.

Veins forked, immersed, and very indistinct.

Rhizoma creeping, about the thickness of a goose quill, and densely clothed with long narrow hair-like dark brown scales.

Length of frond four to twelve inches, of which the lower five inches in a twelve-inch frond is naked. Colour bright shining green.

Stipes glabrous.

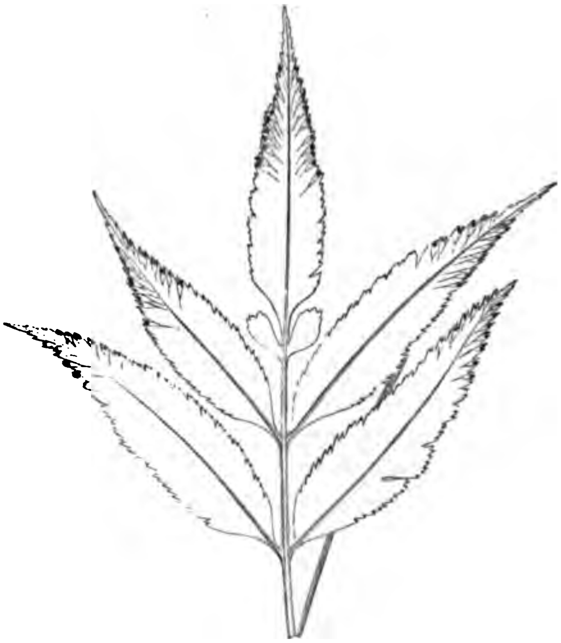
Fertile fronds contracted, ternate, elongate, occasionally a frond may be found more or less bearing sori, yet not contracted.

Sori oblong, marginal, but keeping within the edge, convex on both sides of the frond, about forty pairs on each pinna, and sixty pairs on the terminal one.

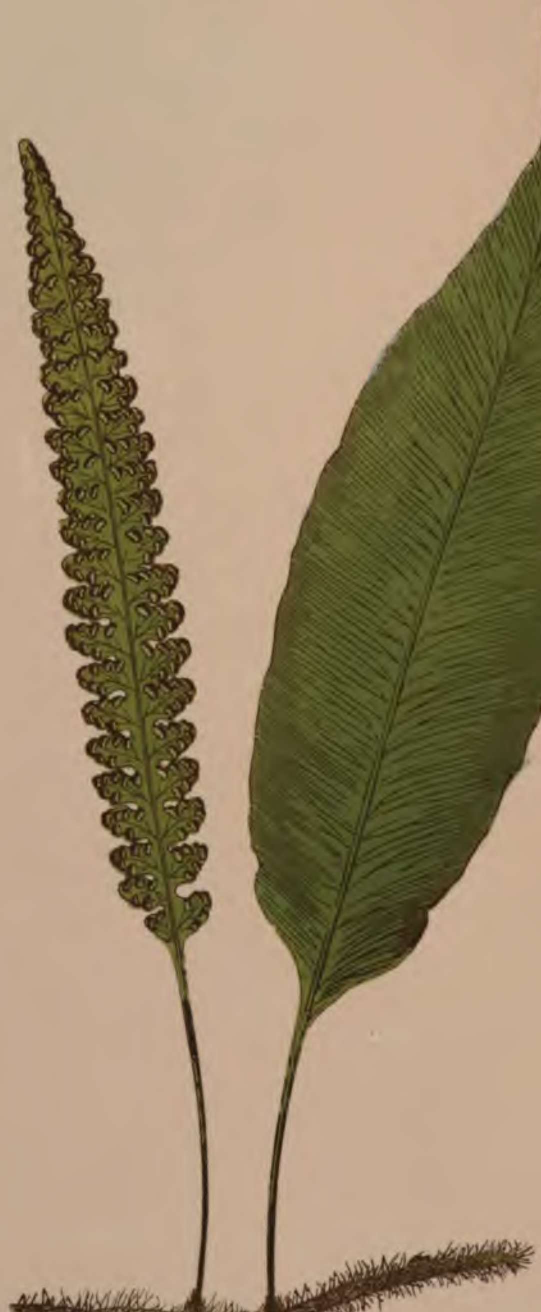
For a plant my thanks are due to Mr. Thomas Moore, Curator of the Botanic Gardens, Chelsea.

It may be procured of Messrs. E. G. Henderson, of St. John's Wood; A. Henderson, of Pine-apple Place; Rollisson, of Tooting; Veitch, of Chelsea; Sim, of Foot's Cray; Kennedy, of Covent Garden; Cooling, of Derby; and Stansfield, of Todmorden.

The illustrations are from a plant in my own collection.

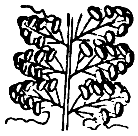


An uncontracted Frond bearing fructification.



DAVALLIA HETEROPHYLLA.

XIX—Vol. 6



Portion of fertile Frond—under side.

DAVALLIA HETEROPHYLLA.

SMITH. HOOKER AND GREVILLE. WILLDENOW.
SWARTZ. SPRENGEL. CUMING.

PLATE XIX. VOL. VIII.

Davallia pinnatifida,	SWARTZ. HOOKER AND BAUER.
" "	WILLDENOW. SPRENGEL.
" "	HOOKER AND GREVILLE.
" *lobulosa,*	WALLICH.
Humata heterophylla,	J. SMITH. HOOKER.
" *ophioglossa,*	CAVANILLES. FEE.
" *pinnatifida,*	CAVANILLES. FEE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Heterophylla—Various-leaved.

IN THE SECTION HUMATA OF AUTHORS.

A VERY distinct pretty dwarf Fern, only to be met with in good collections. The sterile and fertile fronds being very different, hence its name.

An evergreen stove Fern.

Native of Malayan Archipelago, Sumatra, Java, Penang, and Singapore.

Fronds solitary, fertile and sterile different, the former contracted in width, coriaceous, stipitate, and arising from a scaly bulb. Sterile frond simple, entire, oblong or ovate-lanceolate; apex acuminate, frequently waved. Fertile fronds much narrower, linear-lanceolate, acuminate, and profoundly sinuato-pinnatifid, the lobes being horizontal and crenate.

Veins branched, sunk, and indistinct.

Caudex long, creeping, and scaly, with dark brown scales.

Involucres, reniform, and copious on the crenatures of the lobes, four to six on each lobe, flattish.

Stipes from half an inch to two inches in length, naked, slightly winged upwards.

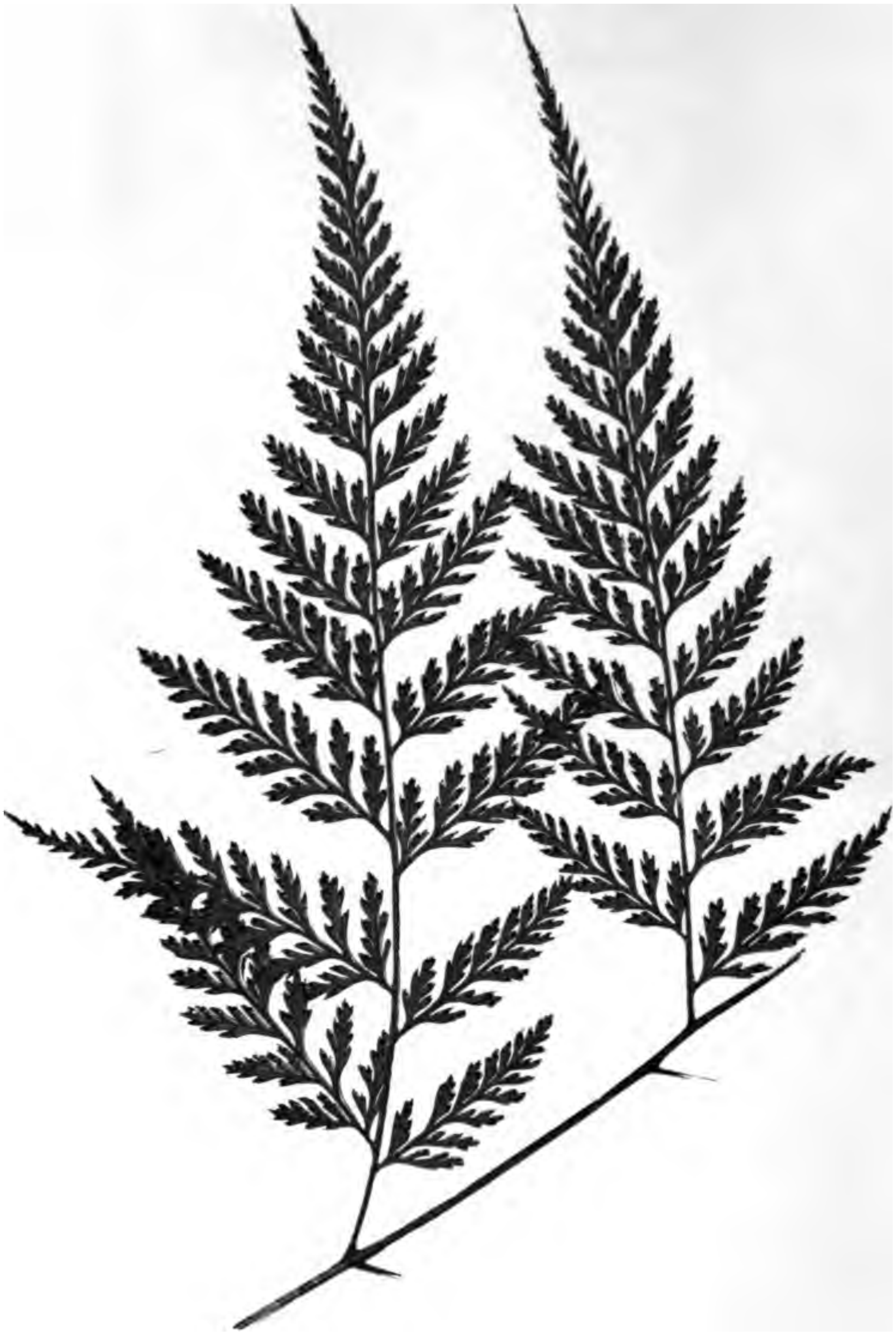
Length of frond from three to five inches, the fertile one being the longest, varying much in width, the sterile frond usually nearly an inch in width, and the fertile one half an inch.

My thanks are due to Mr. James Veitch, of the Exotic Nursery, Chelsea, for a plant and fronds of this Fern.

Introduced into England about two years ago by Mr. Veitch, of Chelsea.

It may be procured of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; E. G. Henderson, of St. John's Wood; and Rollisson, of Tooting.

The illustration is from a plant in my own collection.



Portion of pinna of fertile Frond—under side.

DAVALLIA DISSECTA.

J. SMITH. MOORE.

PLATE XX. VOL. VIII.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Dissecta—Dissected.

AN exceedingly beautiful Fern when well grown, and easily cultivated.

An evergreen stove species.

From the Malayan Archipelago and Java.

Introduced in 1849, by Messrs. Rollisson, of Tooting.

Fronds glabrous, triangular in form, slender, tri-quadripinnate, the pinnæ triangularly-elongate, acuminate, and membranous. Pinnules oblong, profoundly pinnatifid, having linear dentate segments; base decurrent. Fronds lateral.

Veins forked.

Rhizoma scandent, slender, lengthy, and densely clothed with narrow reddish brown scales, which curl round.

Rachis, midrib of pinnæ, and pinnules winged. Stipes slightly hirsute, brown below, green above, and fluted.

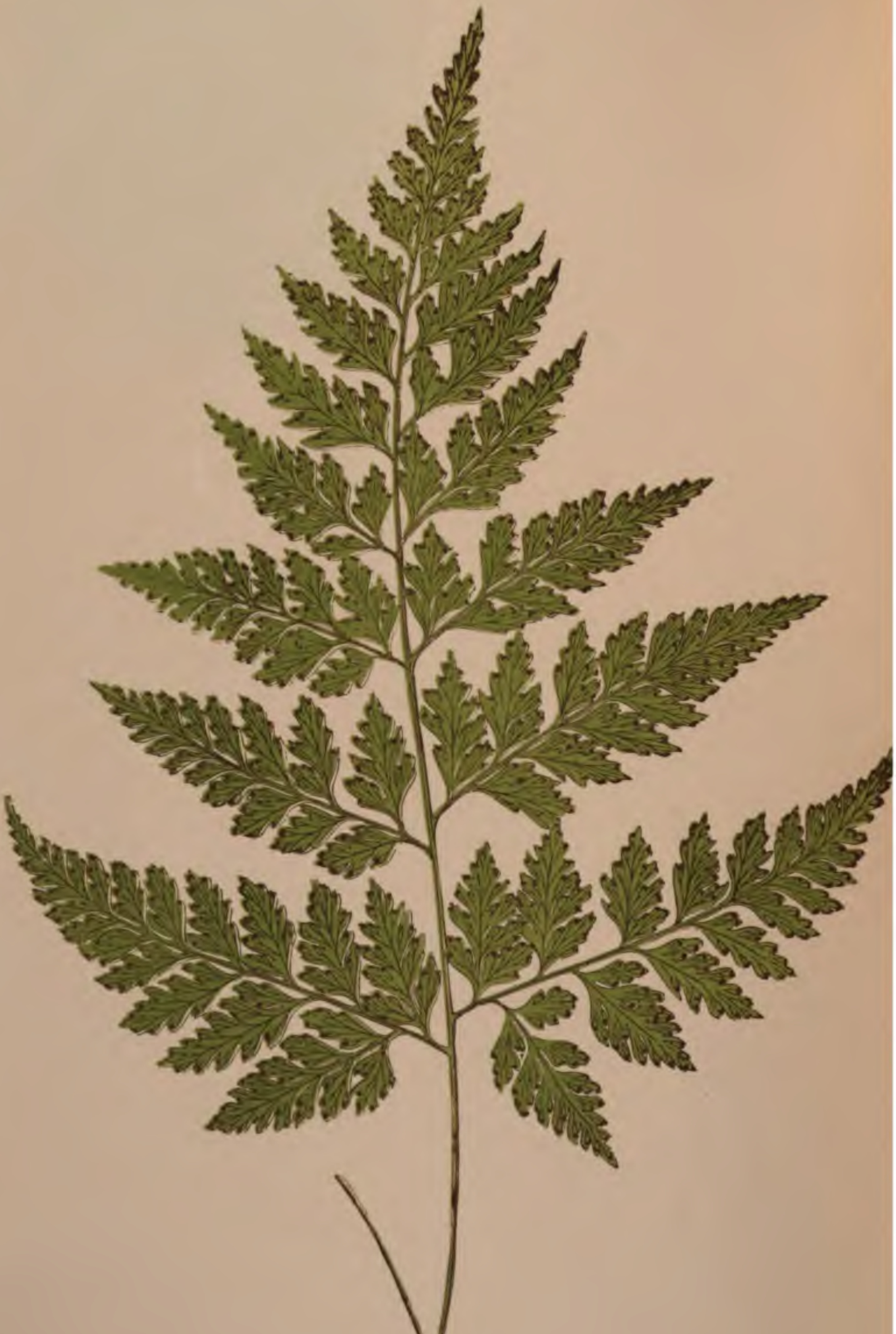
Length of frond twelve to twenty-four inches, of which the lower six to eight inches is naked. Width of frond ten inches. Colour light green.

Involucres one on each segment of the fertile frond.

For plants I am indebted to Mr. Moore, of the Botanic Gardens, Chelsea; and to Messrs. Rollisson, of Tooting.

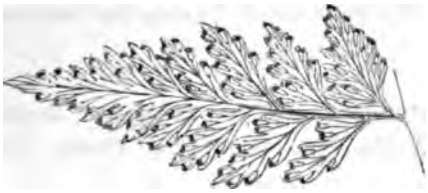
It is in the Catalogues of Messrs. Rollisson, of Tooting; Veitch, of Chelsea; Sim, of Foot's Cray; Kennedy, of Covent Garden; Jackson, of Kingston; E. G. Henderson, of St. John's Wood; A. Henderson, of Pine-apple Place; Booth, of Hamburg; Stansfield, of Todmorden; and Cooling, of Derby.

The illustration is from a plant in my own collection.



DAVALLIA PYXIDATA.

XXI—VOL. 8.



Portion of pinna of fertile Frond—under side.

DAVALLIA PYXIDATA.

R. BROWN. HOOKER. J. SMITH. CAVANILLES.
SWARTZ. WILLDENOW. PAXTON. KUNZE. SIEBER. LINK.
KAULFUSS. SPRENGEL. FEE. MOORE AND HOULSTON.

PLATE XXI. VOL. VIII.

Davallia arborea,	CONTINENTAL GARDENS.
" *solida,*	HOOKER AND ARNOTT. (*Not of* SWARTZ.)
Humata pyxidata,	DESVAUX.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Pyxidata—Box-like.

ANOTHER old favourite of our gardens, easily grown, and well worthy of cultivation.

A deciduous warm greenhouse Fern.

Native of New Holland, Australia, Norfolk Island, and Sidney.

Introduced into the Royal Gardens, Kew, in 1808, having been received from Mr. Caley.

This shrubby-habited Fern has glabrous fronds, deltoid, tripinnate, the pinnules oblong, pinnatifid, segments oblong-obtuse and dentate, base decurrent.

Fronds lateral.

Rhizoma frutescent and erect, scaly, the scales lying flat, slender, rising to the height of three or four feet.

Length of frond eighteen to twenty-four inches. Colour light green.

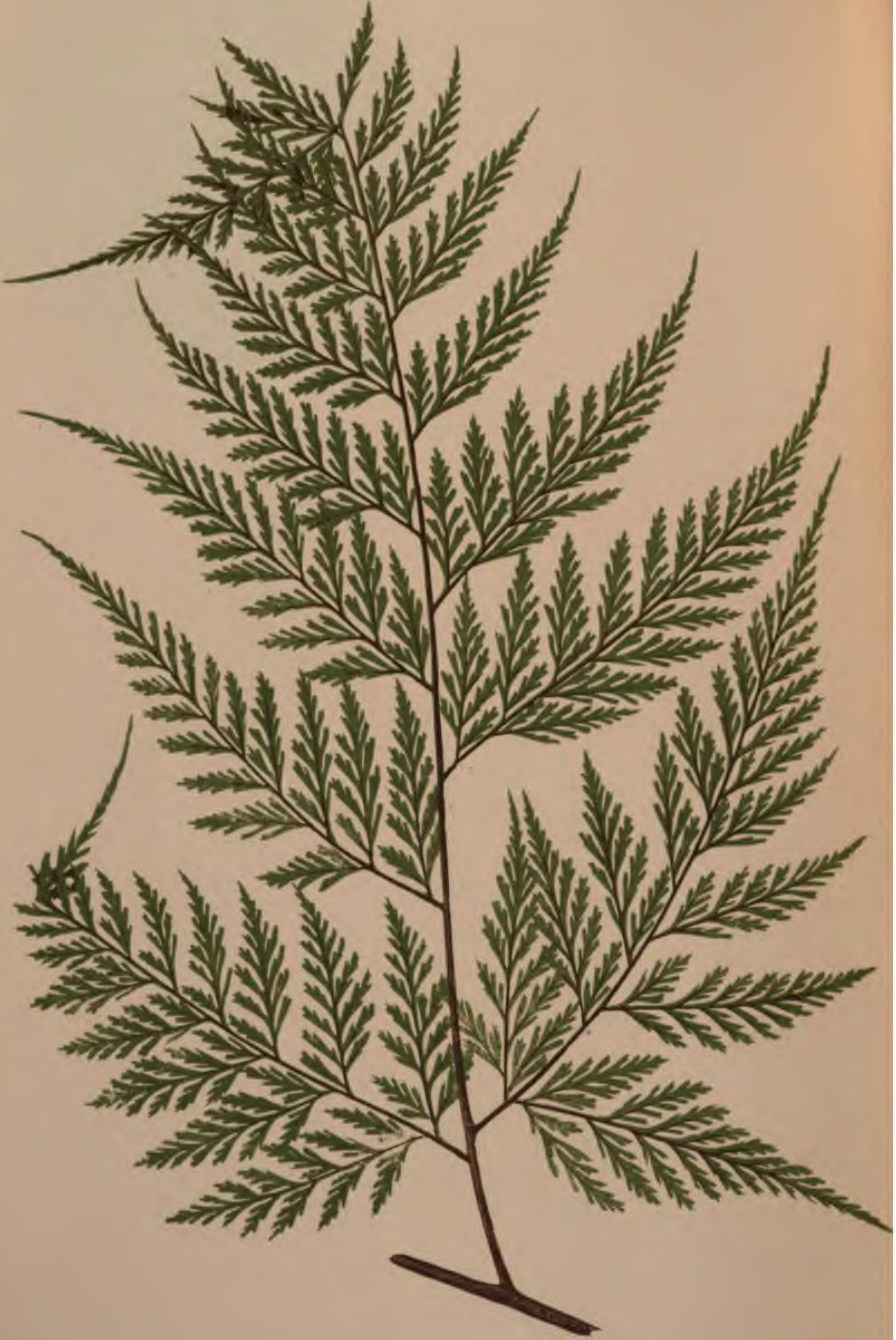
Stipes green.

For plants my thanks are due to Messrs. Booth, Nurserymen, Hamburg; and Mr. Masters, of the Exotic Nursery, Canterbury.

It may be procured of any Nurseryman.

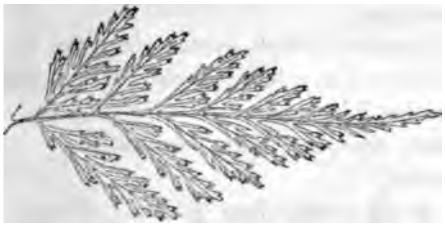
There seems to be two forms of this Fern in cultivation, that under the name of *Davallia arborea* being the handsomer of the two.

The illustration is from a plant in my own collection.



DAVALLIA [illegible]

XXI.—VOL. I.



Portion of pinna of fertile Frond—under side.

DAVALLIA ELEGANS.

Swartz. Hooker. J. Smith. Willdenow.
Wallich. Kunze. Sprengel. Fee. Paxton.

PLATE XXII. VOL. VIII.

Davallia bidentata,	Schkuhr.
" *coniifolia,*	Wallich.
Humata elegans,	Desvaux.
Adiantum denticulatum,	Houttuyn, (*not of* Swartz, Willdenow, *or* Hooker.)

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Elegans—Elegant.

A magnificent Fern, deserving a place in every collection, yet by no means common in cultivation in this country.

An evergreen stove species.

Native of the West Indies, Java, Malayan Archipelago, Philippine Islands, China, Madagascar, Otaheite, Ceylon, New Holland, Penang, and Madras.

Introduced into the Royal Gardens, Kew, in 1844, by Mr. D. Cameron.

This Fern is remarkable for the elegant divisions of its fronds, and for the dark coloured lines on its segments, giving a striated appearance.

Fronds tall, subcoriaceous, ovate-acuminate in form, tri-quadripinnate, pinnules lanceolate, pinnatifid, acuminate and striated. Ultimate pinnules lobato-crenate.

Caudex stout, creeping, scaly, and woolly.

Veins branched.

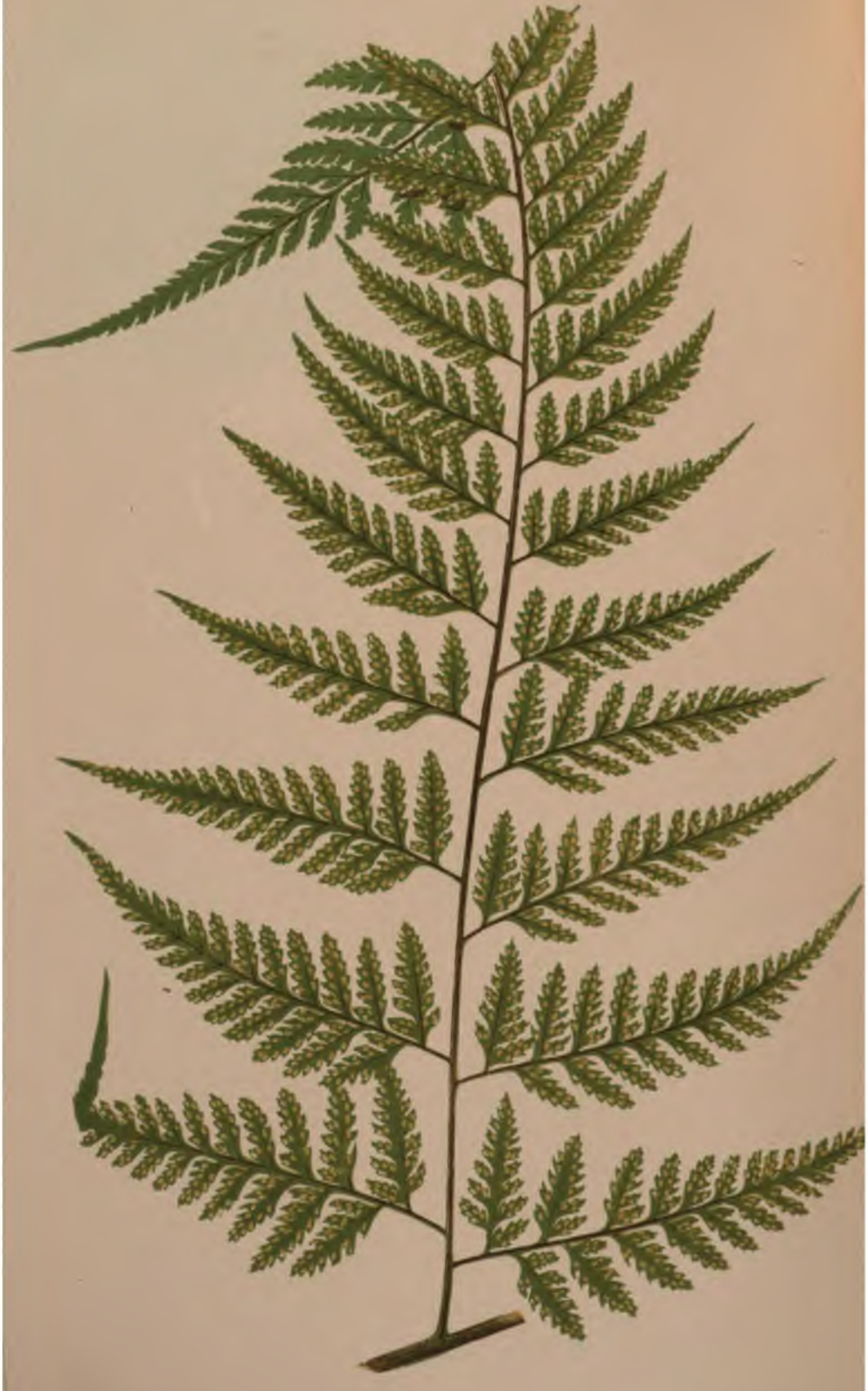
Length of frond twenty-four inches. Colour bright shining green.

Involucres half cup-shaped, sunk within the lobe, compressed, truncate at the mouth.

My thanks are due to Mr. David Moore, of the Glasnevin Botanic Gardens, Dublin, for a frond of this Fern.

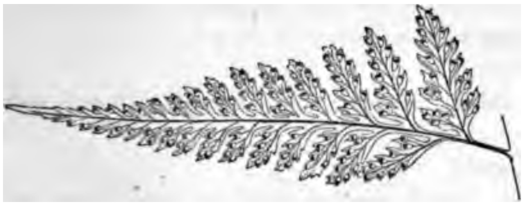
It may be procured of Mr. R. Sim, of Foot's Cray, Kent.

The illustration is from Mr. D. Moore's frond.



DAVALLIA POLYANTHA.—PINNA.

XXIII—VOL. B.



Portion of pinna of fertile Frond—under side.

DAVALLIA POLYANTHA.

HOOKER. MOORE.

PLATE XXIII. VOL. VIII.

Microlepia polyantha,	FEE.
Davallia divaricata,	BLUME. J. SMITH. PRESL. (*Not of* HOOKER, SCHLECHTENDAL, *or* LINK.)

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Polyantha—Many-flowered.

THIS beautiful exhibition plant should be in every collection. The fronds being exceedingly handsome, the fertile and sterile ones so different, the shades of green, and in younger fronds the tints of pink and red so various, and the plant itself so readily grown, that it is a universal favourite.

An evergreen stove Fern.

Native of the Malayan Archipelago and Singapore.

Introduced from Java in 1847, by Messrs. Rollisson, of Tooting.

The fronds, which are glabrous, are triangularly-elongate in shape, triquadripinnate, the pinnæ as well as the pinnules triangularly elongate-acuminate, sub-opposite or opposite, and profoundly pinnatifid; segments small, oblong-linear; apex blunt, base decurrent, margin crenate. Fertile frond contracted. Widest pinnæ twelve inches in length.

Fronds lateral.

Rhizoma thick, creeping, and covered with soft reddish brown scales.

Veins forked.

Sori intramarginal, vertically oblong, and being swollen above the surface of the frond, give the plant a pleasing appearance.

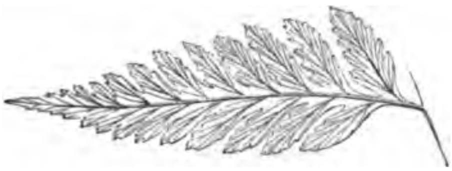
Length of frond from thirty-five to seventy inches; colour when young purplish red, then greenish red, and lastly a rich shining deep green. On a plant with many fronds the diversity of colour is very striking.

Stipes and rachis smooth, twenty-four inches in length, bright red, except two very narrow green lateral lines on each side of the stem.

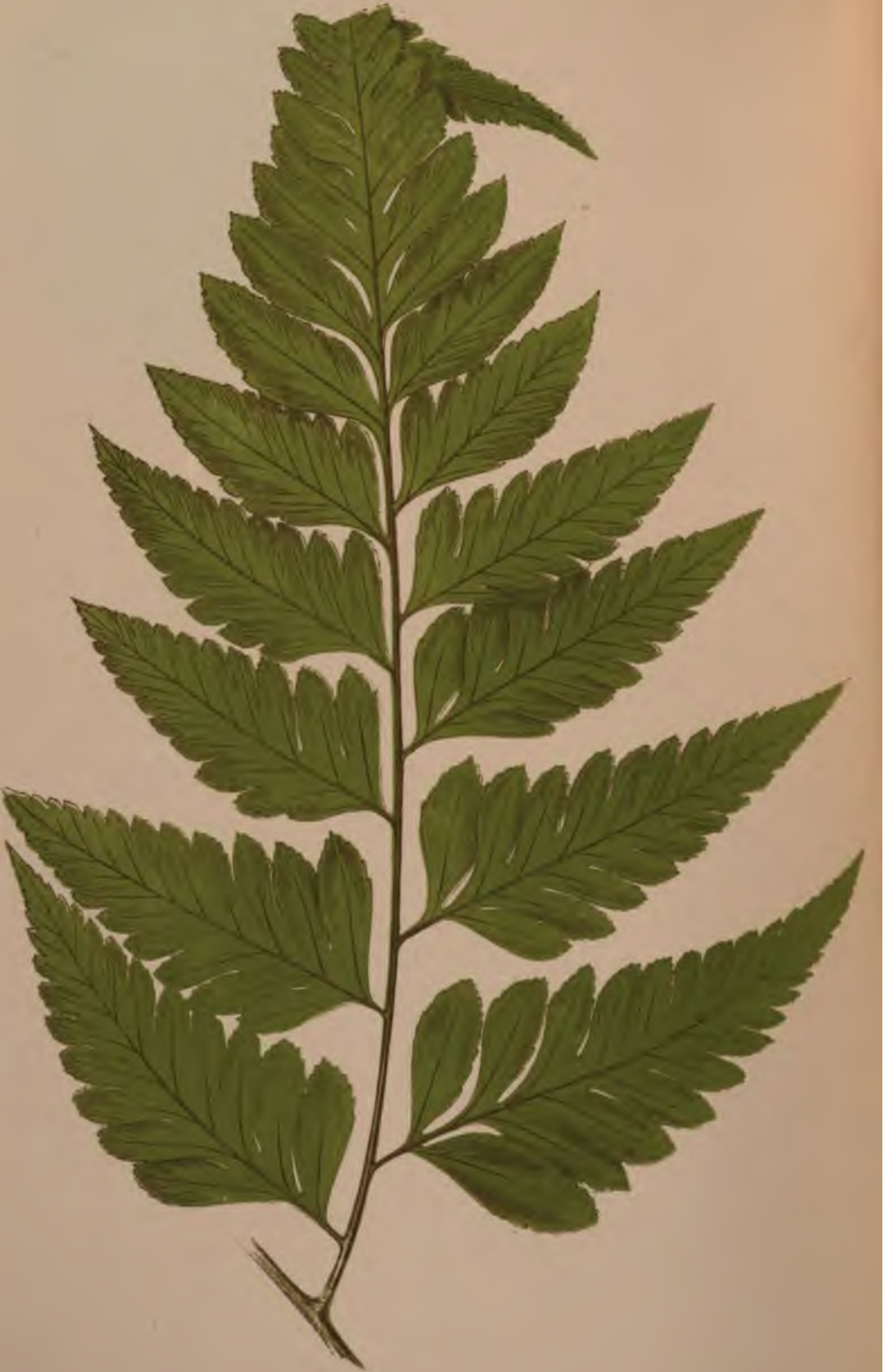
I am indebted to Messrs. Rollisson, of Tooting, for a plant of this very beautiful Fern.

It may be procured of Messrs. Rollisson, of Tooting; Veitch, of Chelsea; E. G. Henderson, of St. John's Wood; Sim, of Foot's Cray; and Cooling, of Derby.

The illustration is from a plant in my own collection.

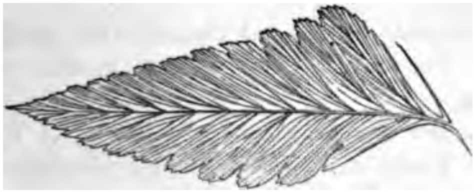


Pinna of barren Frond.



DAVALLIA ORNATA.—PINNA.

XXIV—VOL. 8.



Barren pinna from near the apex of a Frond.

DAVALLIA ORNATA.

WALLICH. LINK. MOORE.

PLATE XXIV. VOL. VIII.

Davallia solida, var. latifolia,	HOOKER.
Stenolobus ornatus,	PRESL.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Ornata—Adorned.

THERE are many forms of this Fern, if we connect it with ***Davallia solida.*** The broad-fronded variety is so distinct, and although other varieties, less broad, run this Fern into *D. solida,* still I have ventured to keep them separate. It is a noble species.

An evergreen stove Fern.

Native of Singapore and Borneo.

Introduced into the Royal Gardens, Kew, in 1844, by Mr. H. Lowe.

Fronds glabrous, deltoid, and bipinnate; the pinnæ triangularly elongate, and having very broad pinnules, which are coriaceous, oblong-ovate, the fertile ones distant and profoundly pinnatifid, superior confluent, base wedge-shaped, margin serrate.

Veins forked.

Fronds lateral.

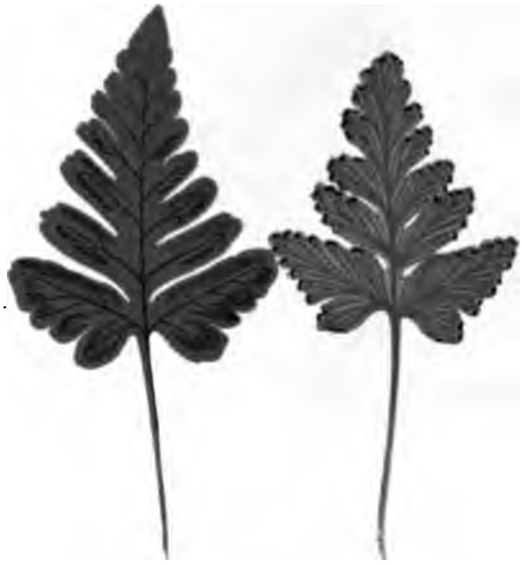
Rhizoma scandent, stout, and clothed with woolly scales.

Length of frond eighteen to twenty inches; colour bright shining green.

My thanks are due to Messrs. Rollisson, of Tooting, for a plant of this Fern; and to Mr. Joseph Henderson, of Wentworth, and Mr. G. Norman, of Hull, for fronds.

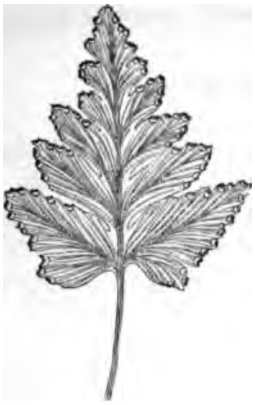
It may be procured of Messrs. Rollisson, of Tooting; Sim, of Foot's Cray; E. G. Henderson, of St. John's Wood; Veitch, of Chelsea; Jackson, of Kingston; and Booth, of Hamburg.

The illustration is from a plant in my own collection.



DAVALLIA PEDATA.

XXV - VOL. 8.



Mature Frond—under side.

DAVALLIA PEDATA.

SWARTZ. HOOKER. J. SMITH. WALLICH. PRESL.

PLATE XXV. VOL. VIII.

Davallia cordifolia,	REINWARDT.
" *subimbricata,*	BLUME.
Humata pedata,	J. SMITH.
Adiantum repens,	LINNÆUS.
" *repens, var. minor,*	NEES AND BLUME.
Pachypleuria pedata,	PRESL.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Pedata—Footed.

A DWARF species, very distinct.

An evergreen stove Fern.

Native of the East Indies, Mauritius, Marianne Isles, Bourbon, Ceylon, Java, and Malay Archipelago.

Fronds paleaceous, stipitate, very coriaceous, deltoideo-cordate in form, somewhat five-angled, and tripartito-pinnatifid; segments oblong-obtuse, the fertile segments being crenato-dentate.

Sori submarginal.

Stipes elongated, chaffy below.

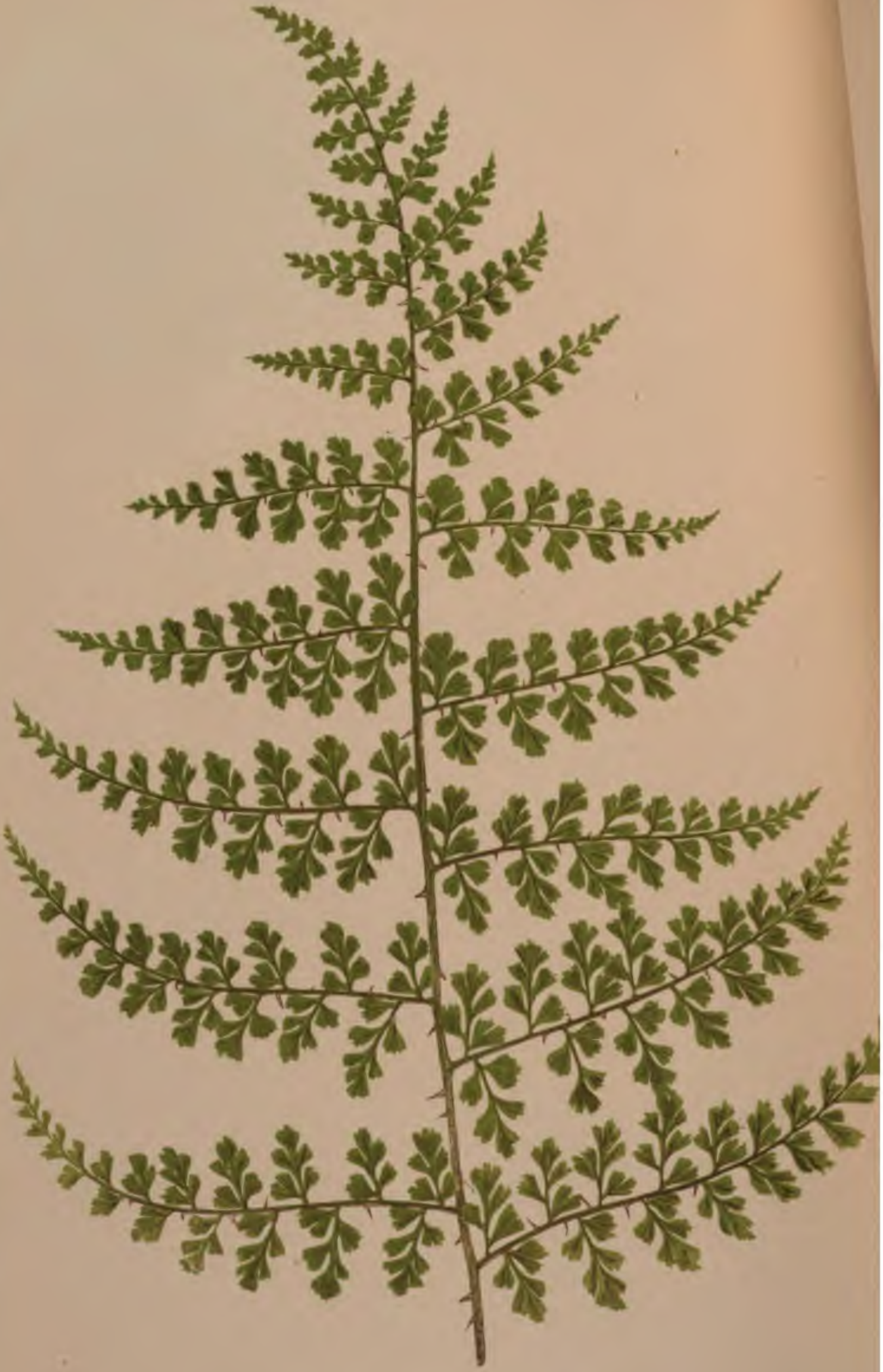
Caudex creeping.

Length of frond from two to six inches.

My thanks are due to Mr. J. Smith, Curator of the Royal Gardens, Kew, for fronds of this species.

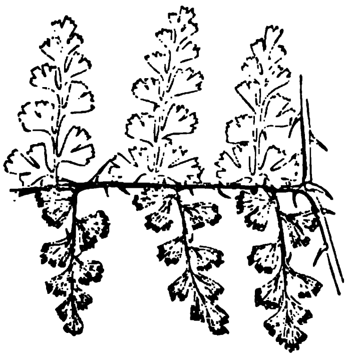
It is not in any of the Nurserymen's Catalogues.

The illustration is from Mr. Smith's frond.



DAVALLIA ACULEATA.—APEX OF FROND.

XXVI—VOL 8.



Portion of fertile Pinna—under side.

DAVALLIA ACULEATA.

J. Smith. Hooker. Swartz. Willdenow.
Presl. Sprengel. Sloane. (*Not of* Hedwig.)

PLATE XXVI. VOL. VIII.

Adiantum aculeatum,	Linnæus. Plumier. Sprengel.
" ***frutescens,***	Plumier.
Odontosoria aculeata,	J. Smith.
Davallia dumosa,	Swartz. Willdenow. (*Not of* Kunze, *nor* Pœppig.)
Stenoloma aculeatum,	Fee.
" ***dumosum,***	Fee.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Aculeata—Prickly.

In the Section Stenoloma of Authors.

A very distinct, scandent *Davallia,* somewhat in the character of ***Platyloma flexuosa*** in its habit, and of an *Adiantum* in its pinnules, the stem bearing thorns. Rare in cultivation.

An evergreen stove Fern.

Native of the West Indies, Hispaniola, Jamaica, Dominica, where it has been found by Plumier, Menzies, Swartz, Dr. Bancroft, and Dr. Imray.

Fronds very long, scandent and spinous, sub-triplicato-pinnate, subcoriaceous, lower pinnæ tripinnate, ultimate pinnæ lanceolate, pinnules somewhat cuneate.

Rachis wiry, flexuous or zigzag, prickly, with spines curved downwards.

Sori small and cup-shaped.

Caudex thin, branched, woody, black and woolly.

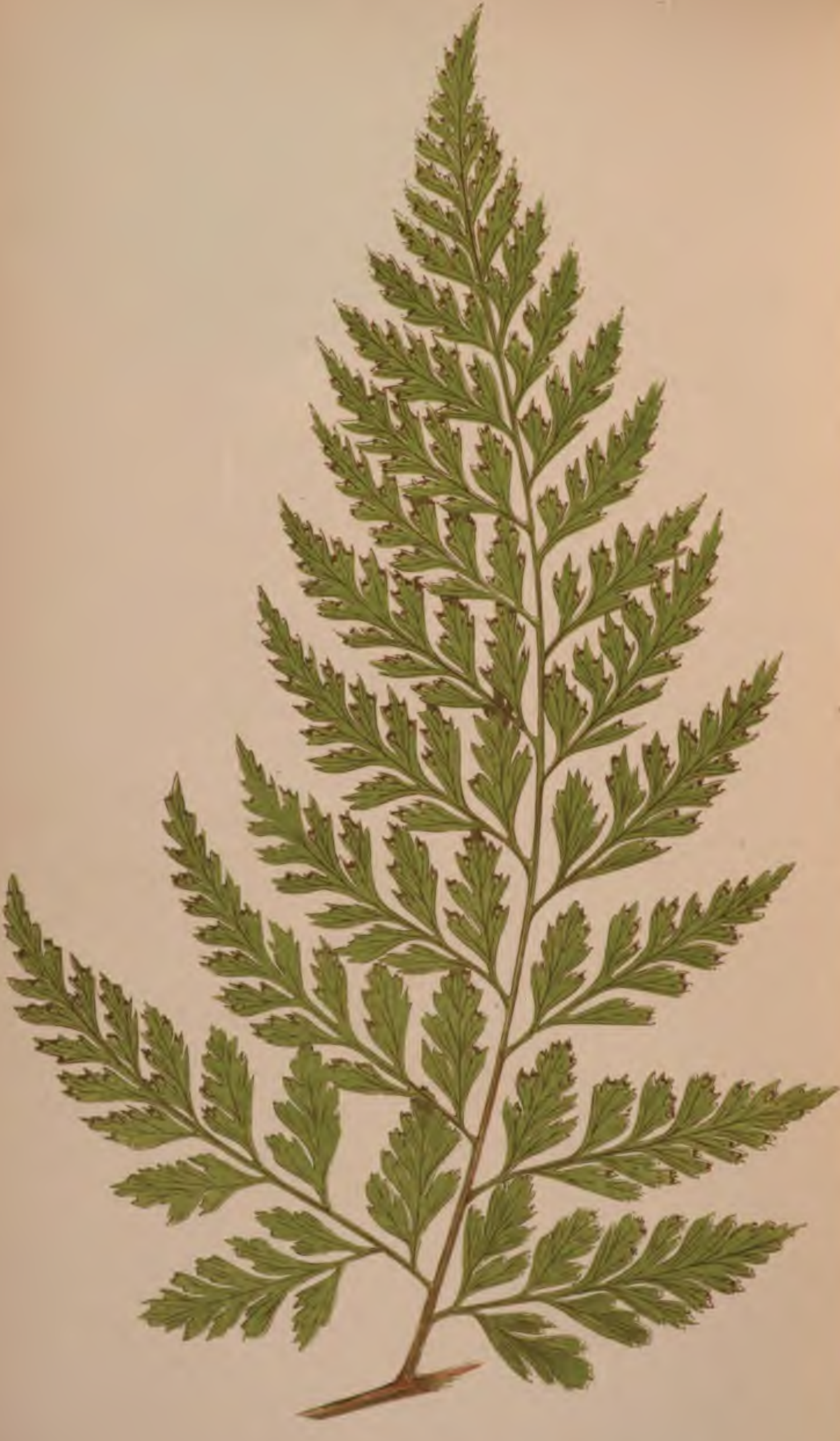
Rachis and stipes ebeneous.

The habit of the plant closely resembles a bramble, covering whole fields, and investing the largest forest trees if growing near them.

For fronds my thanks are due to Sir W. J. Hooker, Director of the Royal Gardens, Kew.

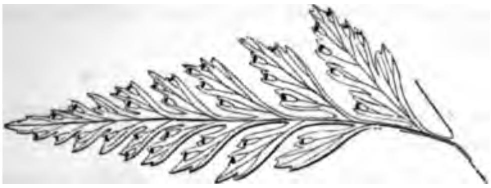
It may be procured of Mr. Sim, of Foot's Cray.

The illustration is from Sir W. J. Hooker's frond.



DAVALLIA SOLIDA.—PINNA.

XXVII—Vol. 8.



Portion of pinna of fertile Frond—under side.

DAVALLIA SOLIDA.

SWARTZ. SCHKUHR. HOOKER. J. SMITH.
WILLDENOW. BLUME. KUNZE. MOORE. SPRENGEL.
HEDWIG. FEE. MOORE AND HOULSTON.
(*Not of* HOOKER AND ARNOTT.)

PLATE XXVII. VOL. VIII.

Davallia procera,	HEDWIG.
" *caudata,*	WALLICH.
" *sordida,*	OF GARDENS.
" *elegans,*	KUNZE.
Trichomanes solidum,	FORSTER.
Stenolobus solidus,	PRESL.
" *kunzeanus,*	PRESL.
Humata solida,	DESVAUX.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Solida—Solid.

A PRETTY species, making a nice exhibition plant.

An evergreen stove Fern.

Native of the East Indies, Malay, and the Polynesian Islands, Otaheite, Pitcairn's Island, Malden Island, Singapore, and Java.

Introduced into the Royal Gardens, Kew, by Mr. H. Lowe, in 1844.

Fronds glabrous, deltoid, bi-tripinnate, pinnules oblong, acute, profoundly pinnatifid, largest next the rachis on the upper side, inferior pinnules cuneate at the base, superior ones confluent, with the margin inciso-serrate.

Fronds lateral.

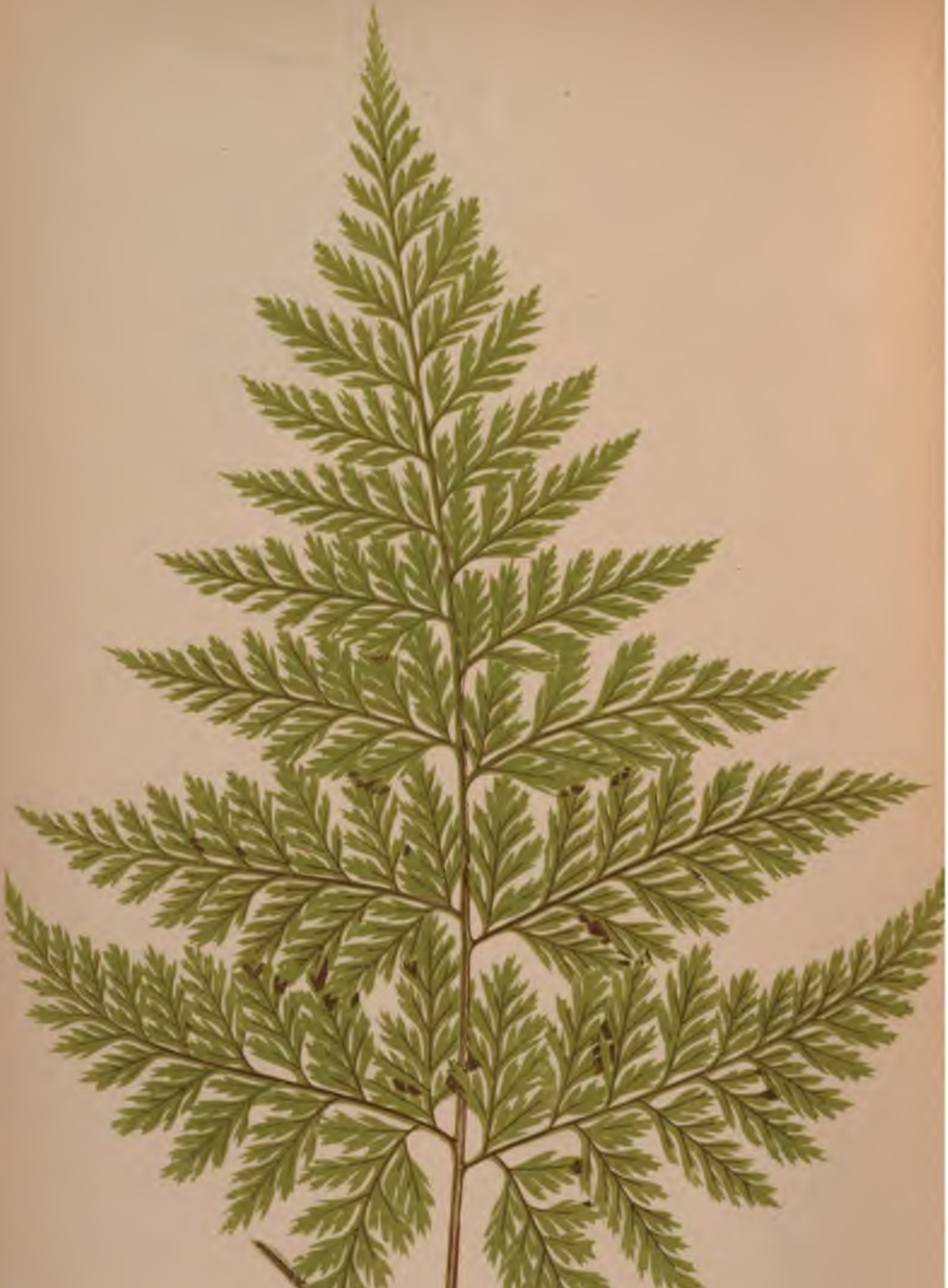
Rhizoma scandent, frutescent, and thickly covered with lengthy narrow brown woolly scales.

Length of frond twelve to eighteen inches; colour dark green.

My obligations are due to Mr. Thomas Moore, of the Chelsea Botanic Gardens, for a plant of this Fern, and to Mr. J. Smith, of the Royal Gardens, Kew, for fronds.

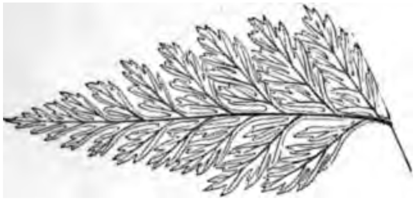
It may be procured of Messrs. Sim, of Foot's Cray; Rollisson, of Tooting; Veitch, of Chelsea; and E. G. Henderson, of St. John's Wood.

The illustration is from Mr. Smith's frond.



DAVALLIA BULLATA.

XXVIII—VOL. 8.



Barren Pinna.

DAVALLIA BULLATA.

WALLICH. HOOKER. J. SMITH. FEE.

PLATE XXVIII. VOL. VIII.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Bullata—From the numerous swellings.

ANOTHER interesting small species, but little known in our English collections, except the more extensive ones.

A deciduous stove Fern.

Native of the East Indies, Nepal, and Assam.

For this species we are indebted to Dr. Wallich.

Fronds deltoideo-ovate, sub-membranaceous, shining, tripinnate, the fertile ones copiously bullate on the upper side. The lower primary pinnæ sub-opposite, ovate-acuminate, pinnules profoundly pinnatifid, and lanceolate.

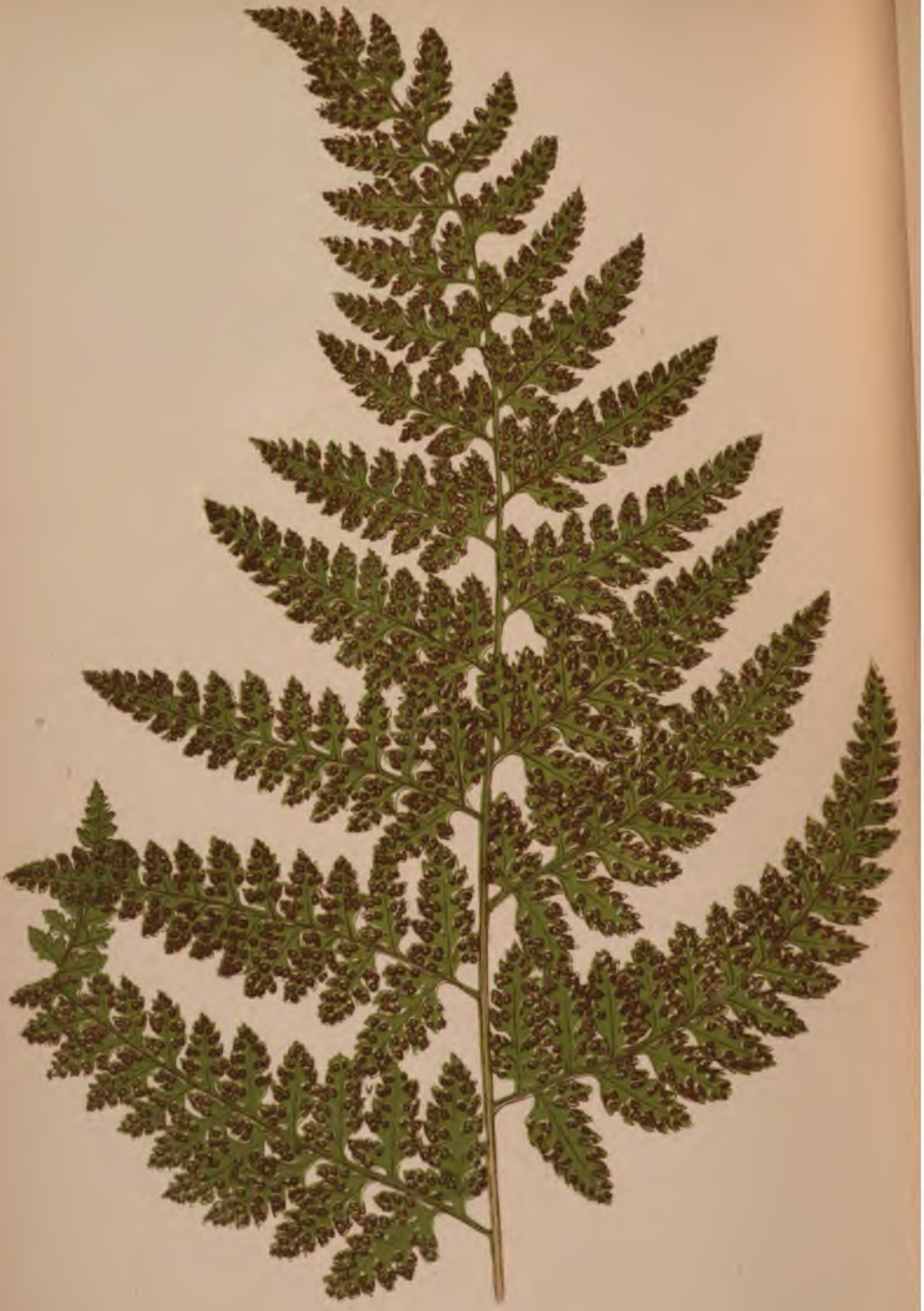
Caudex creeping, and clothed with copious sub-squamose ferruginous scales.

Length of frond six inches, width from four to six inches.

Habit erect; stem slender.

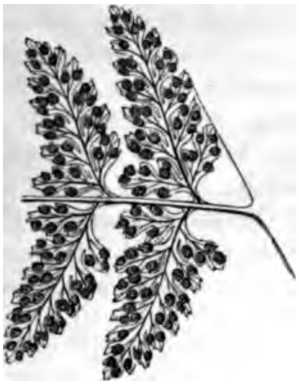
For a plant my thanks are due to Messrs. Parker, of Holloway; and for fronds to Mr. Henderson, of Wentworth.

The illustration is from a plant in my own collection.



DAVALLIA TRICHOSTICHA.—APEX OF FROND.

XXIX—VOL. 8.



Portion of fertile pinna—under side.

DAVALLIA TRICHOSTICHA.

HOOKER. KUNZE. CUMING.

PLATE XXIX. VOL. VIII.

Microlepia trichosticha,	J. SMITH. FEE.
Sclenidium divergens,	KUNZE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Trichosticha—Hairy-spiked.

IN THE SECTION MICROLEPIA OF AUTHORS.

AN uncommon Fern, easily grown, and well worthy of extended cultivation.

An evergreen stove species.

Native of Java, Philippines, and Isle of Samar.

Fronds large, sub-membranaceous, bi-tripinnate, the primary pinnæ being twelve inches in length, rachis winged above, ultimate pinna and pinnules sessile, base almost cuneate. Somewhat hairy above, and densely pubescent below, the pubescence being very conspicuous and colourless.

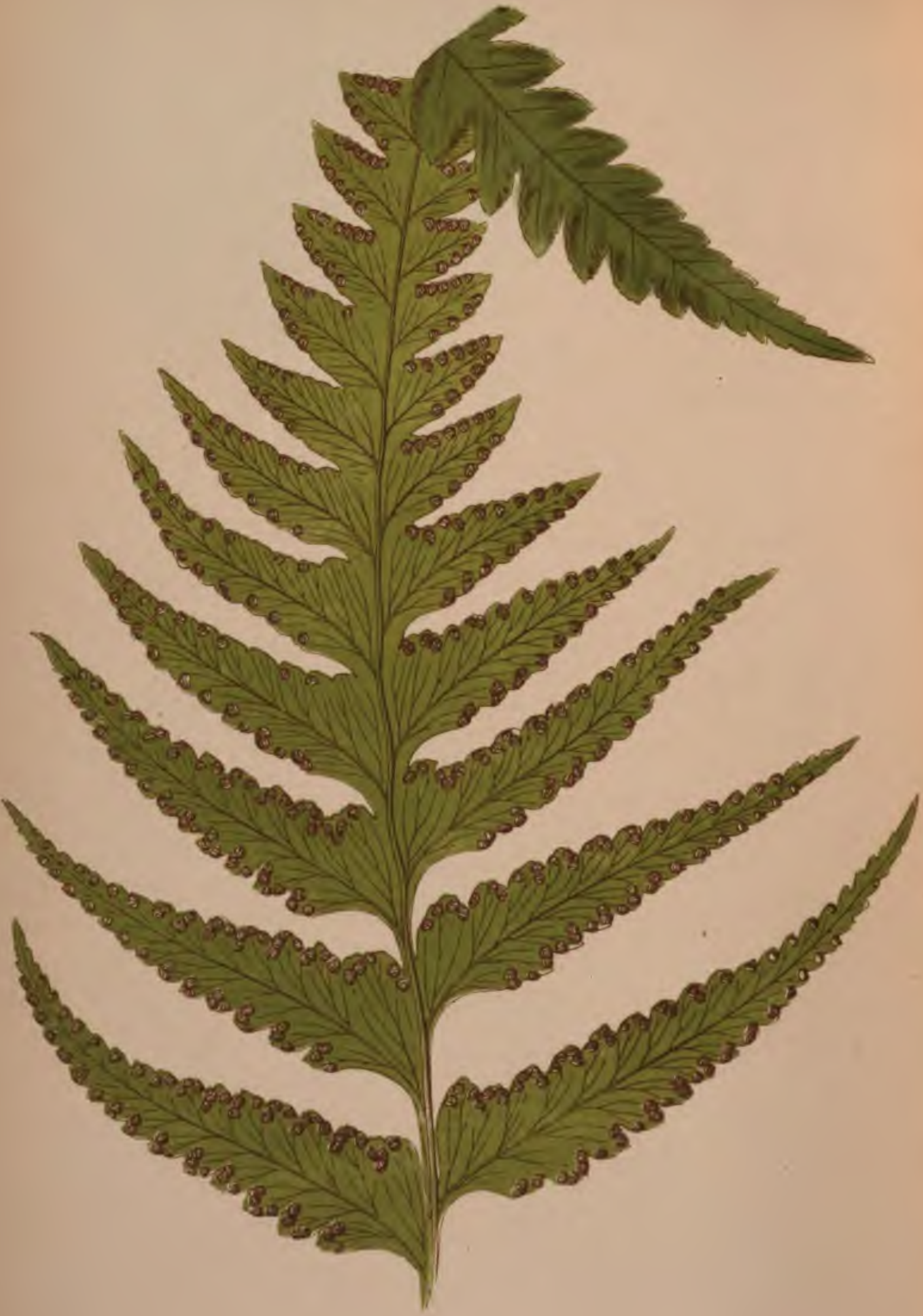
Sori small, and somewhat distant from the margin.

Length of frond three feet; colour pale green.

My thanks are due to Sir W. J. Hooker, Director of the Royal Gardens, Kew, for a plant of this species; and to Mr. J. Smith, Curator of the Royal Gardens, Kew, for fronds.

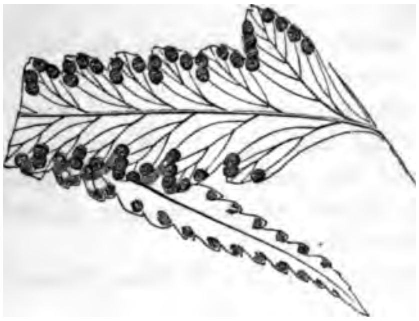
It does not appear in any of the Nurserymen's Catalogues.

The illustration is from a plant in my own collection.



DAVALLIA LONCHITIDEA.—APEX OF FROND.

XXX—VOL. 8.



Fertile pinna—under side.

DAVALLIA LONCHITIDEA.

WALLICH. HOOKER.

PLATE XXX. VOL. VIII.

Davallia platyphylla,	DON.
Microlepia "	J. SMITH.
" *lonchitidea,*	J. SMITH.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Lonchitidea—Spear-shaped.

IN THE SECTION MICROLEPIA OF AUTHORS.

A BEAUTIFUL stove species, one of the noblest of the genus, making an exceedingly handsome specimen, having very spreading and nearly horizontal fronds, above a foot in width.

Native of Nepal, Madras, and the Island of Ceylon.

Fronds large, tall, and tripinnate, the primary and secondary pinnules much petiolated—the petioles long and glossy. Coriaceo-membranaceous, glabrous. The pinnæ large and spreading, ovate lanceolate in form, deeply pinnatifid, and often pinnate at the base; apices much acuminated. Pinnules very broad.

Veins pinnate.

Sori solitary, mostly in the axils of the teeth near the margin, very conspicuous.

Rachis and costa flexuose.

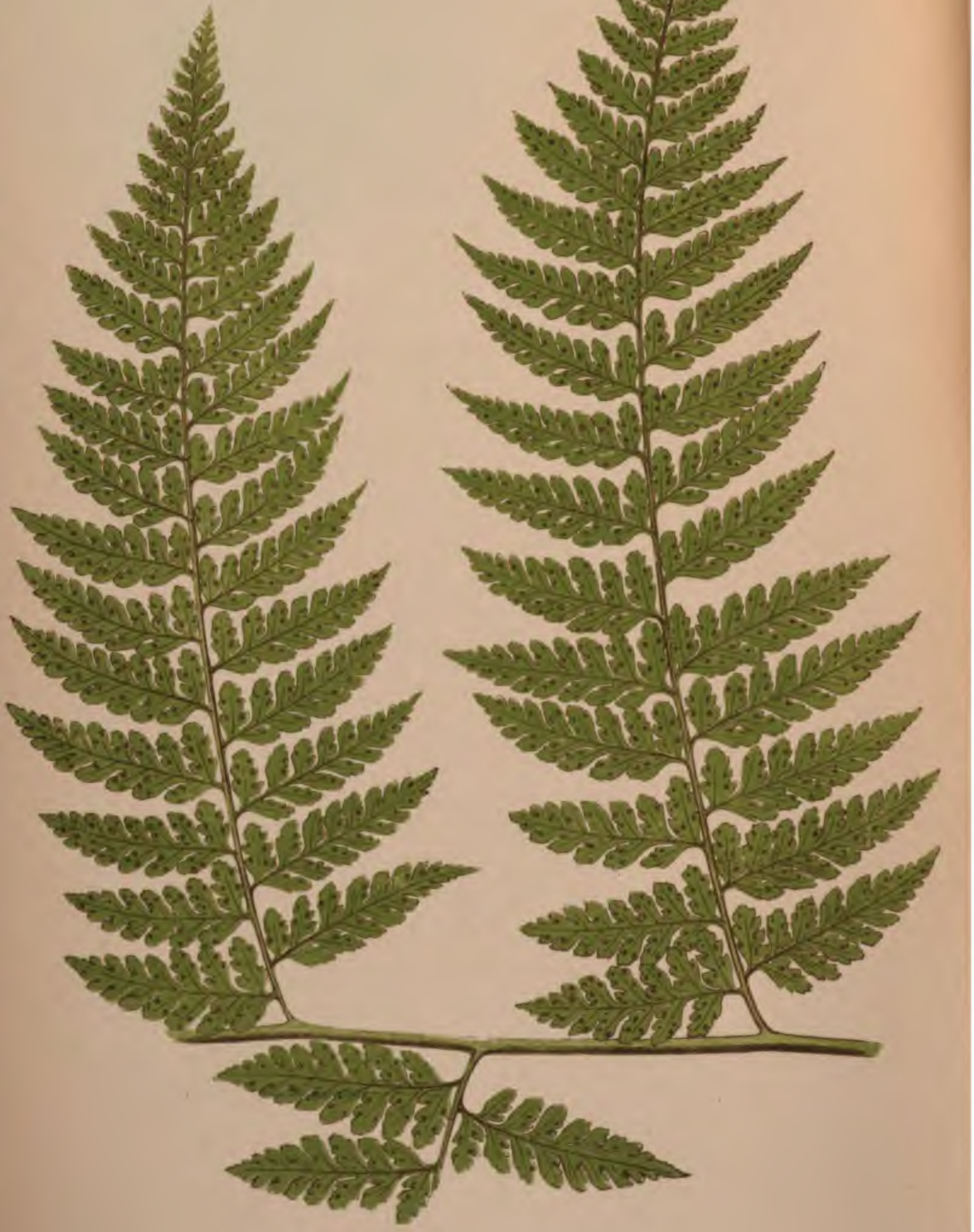
Caudex thick and creeping. Habit erect.

Length of frond fifty inches; colour pale green.

For fronds my thanks are due to Mr. J. Smith, Curator of the Royal Gardens, Kew.

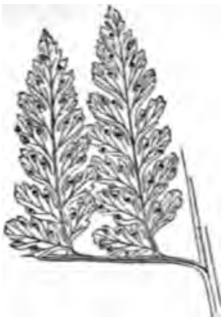
It may be procured of Mr. R. Sim, Nurseryman, of Foot's Cray, Kent.

The illustration is from Mr. Smith's frond.



DAVALLIA POLYPODIOIDES.—PINNÆ.

XXXI—Vol. 8.



Portion of pinna of fertile Frond – under side.

DAVALLIA POLYPODIOIDES.

Don. Hooker.

PLATE XXXI. VOL. VIII.

Davallia rhomboidea,	Wallich.
" *flaccida,*	R. Brown. Blume. Don. (*Not of* Hooker & Arnott.)
" *divergens,*	Schott.
" *nepalensis,*	Sprengel?
Microlepia polypodioides,	Presl. Hooker.
" *flaccida,*	J. Smith. (*Not of* Fee.)
" *rhomboidea,*	Presl. J. Smith. Fee.
Polypodium nudum,	Forster.
" *speluncæ,*	Linnæus.
" *cristatum,*	Houttuyn.
Cœnopteris japonica,	Willdenow.
Dicksonia polypodioides,	Swartz. Willdenow.
" *flaccida,*	Hooker and Arnott. Brown. (*Not of* Swartz & Schkuhr.)
" *virens,*	Wallich.
" *roxburghii,*	Wallich.
" *puberula,*	Wallich.
" *rhomboidea,*	Wallich.
" *pyramidata,*	Wallich.
" *pilosula,*	Wallich.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Polypodioides—Polypodium-like.

IN THE SECTION MICROLEPIA OF AUTHORS.

AN ornamental large Fern.

An evergreen stove species.

Native of Asia, Ceylon, East Indies, Madras, Assam, Nepal, Singapore, Java, China, Brazil, Oahu, New Holland, Tovay, Luzon, Khasiya, Polynesia, Fernando Po, Penang, and Amboyna.

We are indebted to Mr. G. Norman, of Hull, for introducing this species, he having received it from the continent.

Fronds ample, triangularly-elongate, tripinnate, and flaccid; pinnules oblong-acuminate, segments membranous, roundish, and deeply pinnatifid; base decurrent, margin bluntly crenate; primary pinnæ distant.

Fronds lateral, very hirsute, especially on the veins and costa, beneath.

Rhizoma creeping.

Length of frond thirty-five to fifty inches; colour a grass green.

Sori large, mostly solitary on the entire lobes, and having several on the pinnatifid ones.

Sir W. J. Hooker describes four varieties, namely,—

Subglabra.—Fronds nearly glabrous.

Pubescens.—Fronds pubescent, with close short down.

Hispida.—Fronds hairy.

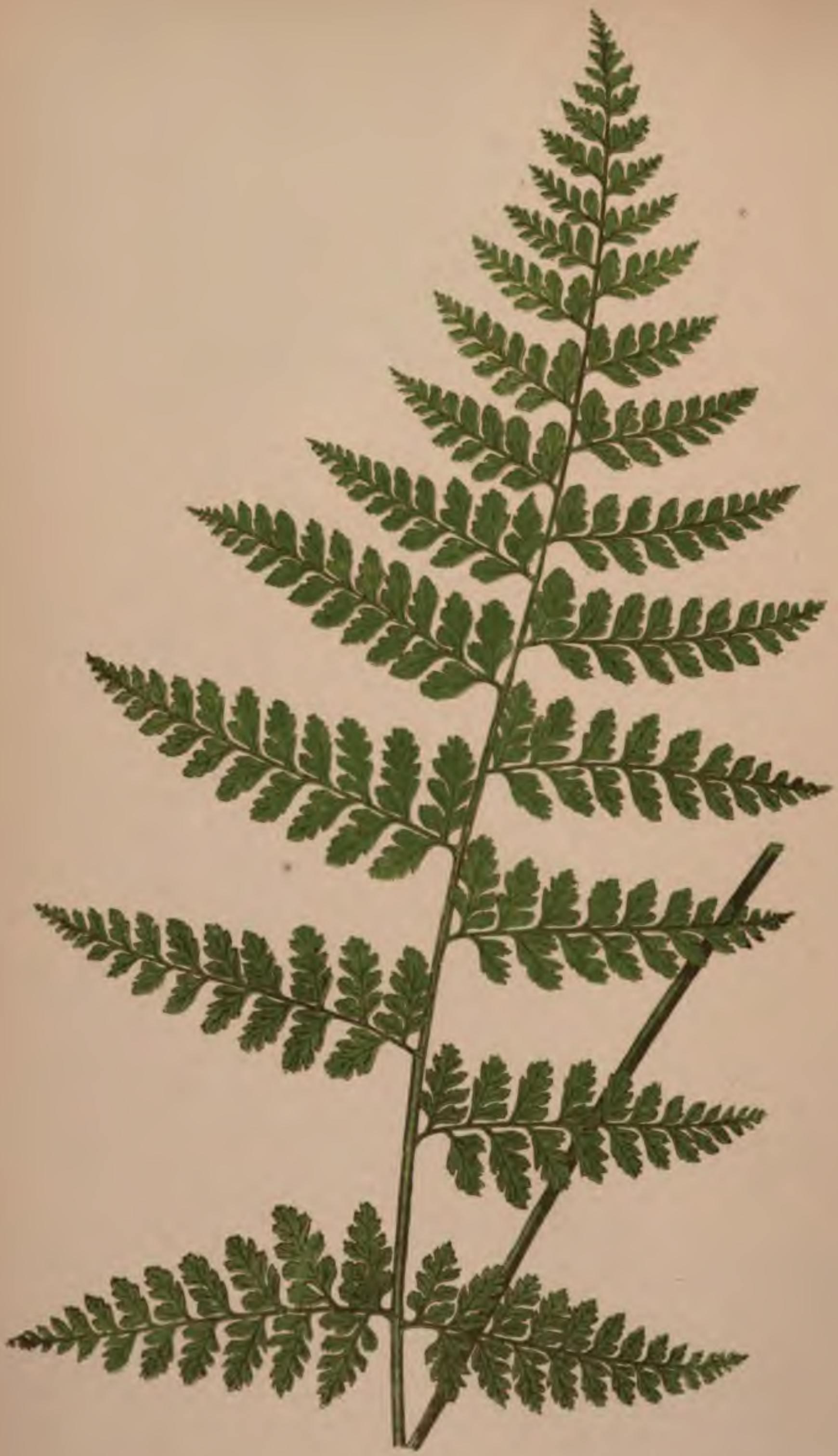
Rhomboidea.—A much larger Fern. It is the *Davallia rhomboidea* of Wallich, and *Microlepia rhomboidea* of Presl.

Introduced into England in 1826.

For plants of this species, and the variety *rhomboidea*, I am indebted to Messrs. Rollisson, of Tooting, and Mr. R. Sim, of Foot's Cray; and for fronds to Mr. R. Sim.

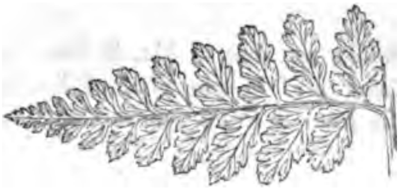
It may be procured from Messrs. Rollisson, of Tooting; Sim, of Foot's Cray; and Veitch, of Chelsea.

The illustrations are from Mr. Sim's fronds.—An engraving of a pinna of a Variety is given at page 92.



DAVALLIA KHASIYANA.

XXXII - VOL. 8.



Pinna of sterile Frond—under side.

DAVALLIA KHASIYANA.

HOOKER.

PLATE XXXII. VOL. VIII.

Microlepia cristata,	J. SMITH.
" *khasiyana,*	FEE.
" *khasyana,*	MOORE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Khasiyana—Named after the Khasiya hills, in Northern India, where it is found.

IN THE SECTION MICROLEPIA OF AUTHORS.

A PRETTY, rare species.

An evergreen stove Fern.

Native of India, Java, Ceylon, and Luzon.

The fronds are very tall, and lanceolate in form, bipinnate, with an elongated stipes thirty inches in length; the rachis and veins pubescent. Pinnæ petiolate, and lanceolate-acuminate in shape. Pinnules subdimidiato-ovate, obtuse, pinnatifid, and angulato-dentate. Pinnæ six to eight inches long.

Length of frond thirty-six inches.

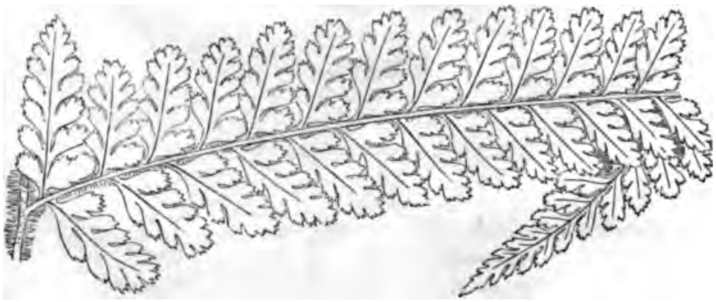
Involucres small and membranaceous.

There is a variety more glabrous, the pinnules not so profoundly pinnatifid, and less petiolate; it is found in the Isle of Ronin.

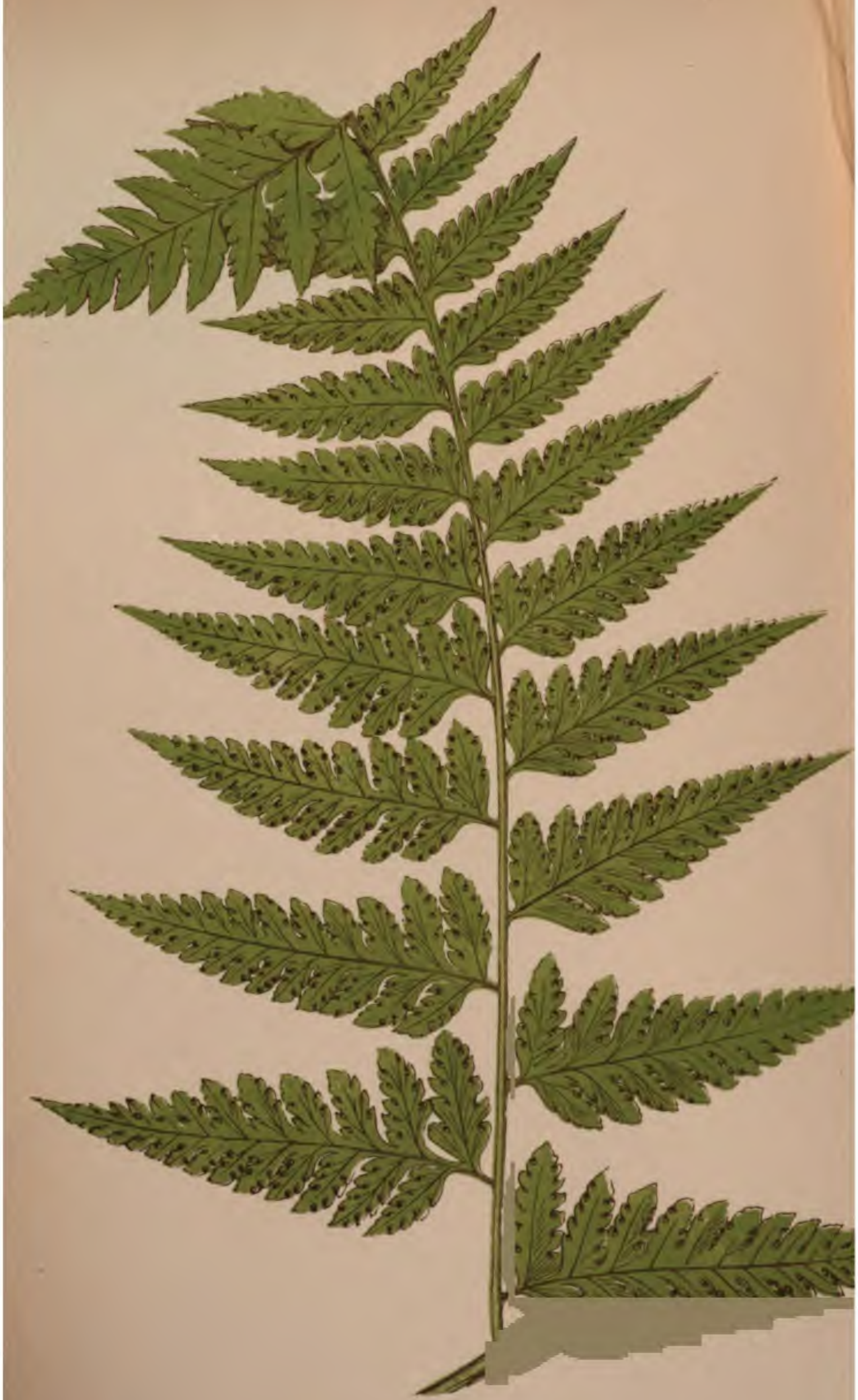
For fronds my thanks are due to Mr. R. Sim, of Foot's Cray.

It is in the Catalogue of Messrs. Sim, of Foot's Cray.

The illustration is from a frond sent by Mr. Sim.

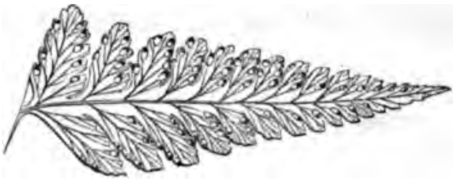


Davallia polypodioides.—Variety.



DAVALLIA MAJUSCULA.—PINNA.

XXXIII—VOL. 3.



Pinna of fertile Frond—under side.

DAVALLIA MAJUSCULA.

LOWE.

PLATE XXXIII. VOL. VIII.

Microlepia majuscula? MOORE.

Davallia—In honour of Edmund Davall, a Swiss Botanist.
Majuscula—Somewhat larger.

IN THE SECTION MICROLEPIA OF AUTHORS.

THIS handsome species has not hitherto been described. It was raised from spores received from India by Mr. R. Sim, of Foot's Cray, and is at present extremely rare.

Native country unknown.

The fronds, which are spreading and tripinnate, are partly erect in habit, and membranaceous. Pinnæ and pinnules alternate. Pinnæ (except near the apex) and also the basal pinnules, petiolate, the superior basal segment large; segments decurrent and rounded, apices of pinnules pointed.

Rachis and stipes minutely hirsute.

Length of frond from five to six feet; colour pale green.

Sori situated at the base of each indent.

The habit is similar to that of ***Davallia polypodioides.***

Rhizoma stoutish and creeping, and covered with silky whitish hairs.

The fertile fronds are erect, and curve only towards the apex.

For fronds I am indebted to Mr. Sim, of Foot's Cray.

Mr. R. Sim, of Foot's Cray, is the only Nurseryman who possesses this Fern.

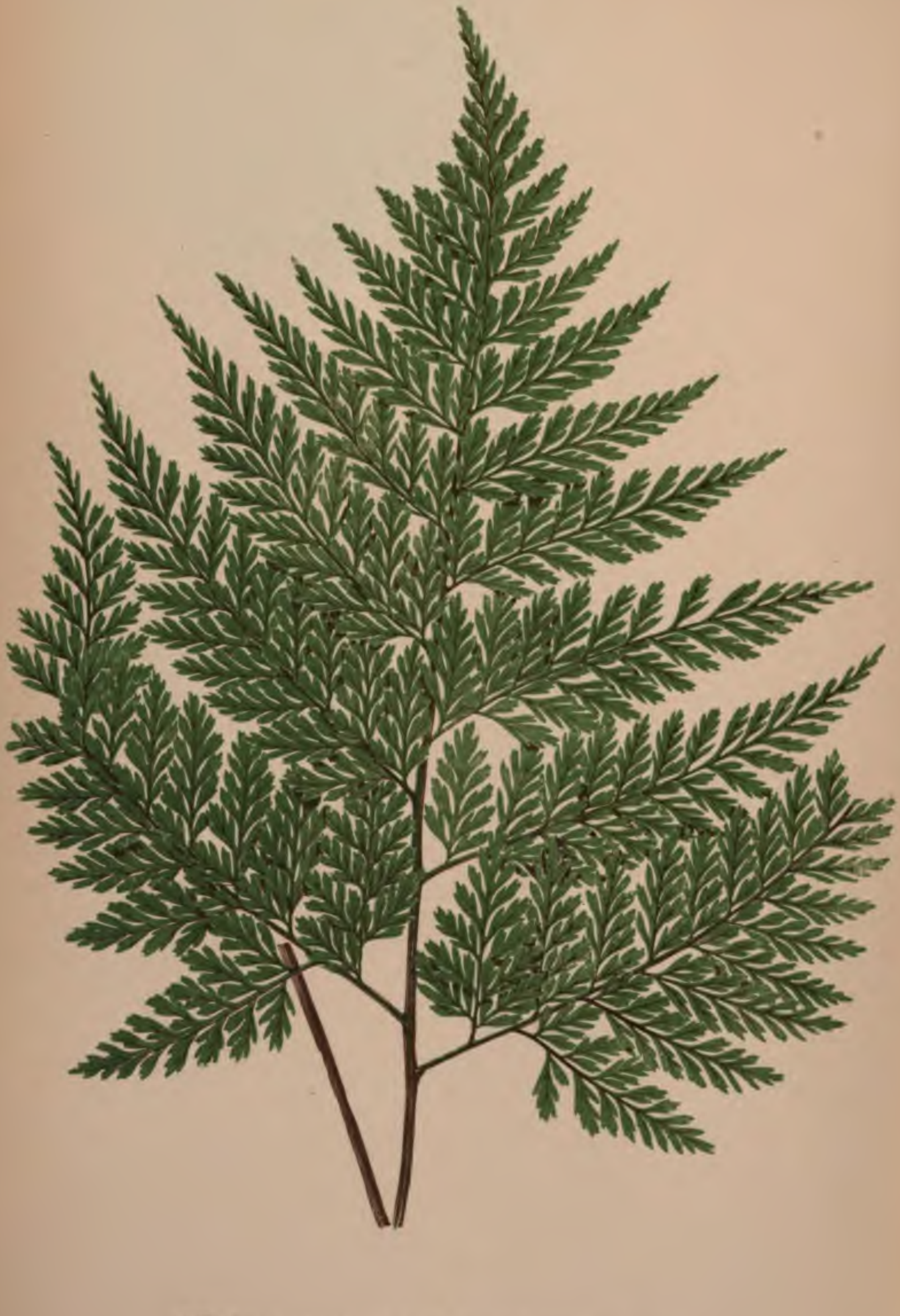
The illustration is from Mr. Sim's frond.

GENUS IV.

THYRSOPTERIS. Kunze.

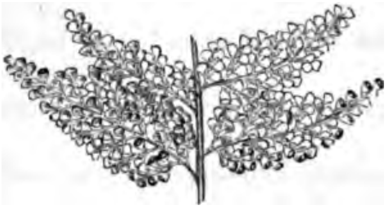
Fronds decompound-multifid, with the fertile portion contracted and paniculate. Veins pinnate, with free venules, the apices forming soriferous pedicels. A special indusium.

A solitary species, from Juan Fernandez.



THYRSOPTERIS ELEGANS.—SMALL FROND.

XXXIV.—VOL. I.



Fertile portion.

THYRSOPTERIS ELEGANS.

KUNZE. HOOKER. J. SMITH. FEE.

PLATE XXXIV. VOL. VIII.

Panicularia berteri, A. COLLA.

Thyrsopteris—From the Greek, *thyrsus*—a spear entwined with ivy, and *pteron*—a wing. *Elegans*—Elegant.

A VERY beautiful, rare Fern, of large size, and having sterile and fertile pinnæ on the same frond, the barren frond having a *Davallia* appearance.

An evergreen stove speices.

Native of Juan Fernandez, inhabiting moist woods, and shady and mountainous situations.

Fronds supra-decompound, glabrous, and coriaceous, pinnæ alternate, the pinnæ and pinnules approximate, the basal pinnules of the lower pinnæ fertile, having contracted, rachiform, unisoriferous, ultimate segments. In the fertile fronds the foliaceous substance is wanting, and the rachis and veins are thickened, forming a much compound raceme or panicle.

Rhizoma brief, stout, decumbent, and tufted.

Stipes and rachis remarkably thick, the main rachis woolly, and having a profound furrow on one side. Stipes from fifty to sixty inches in length, the leafy portion being from fifty to sixty inches long.

The lowest pinnæ twenty-four inches in length; colour vivid dark green.

Veins pinnate, venules free, their apices forming soriferous pedicels.

Involucres coriaceous, cup-shaped, entire, and petiolate, the indusium forming a calyciform cyst.

My thanks are due to Mr. J. Smith, of the Royal Gardens, Kew, for fronds of this species.

It may be procured of Messrs. Veitch, of the Exotic Nursery, Chelsea.

The illustrations are from Mr. Smith's fronds.

GENUS V.

CIBOTIUM. Kaulfuss.

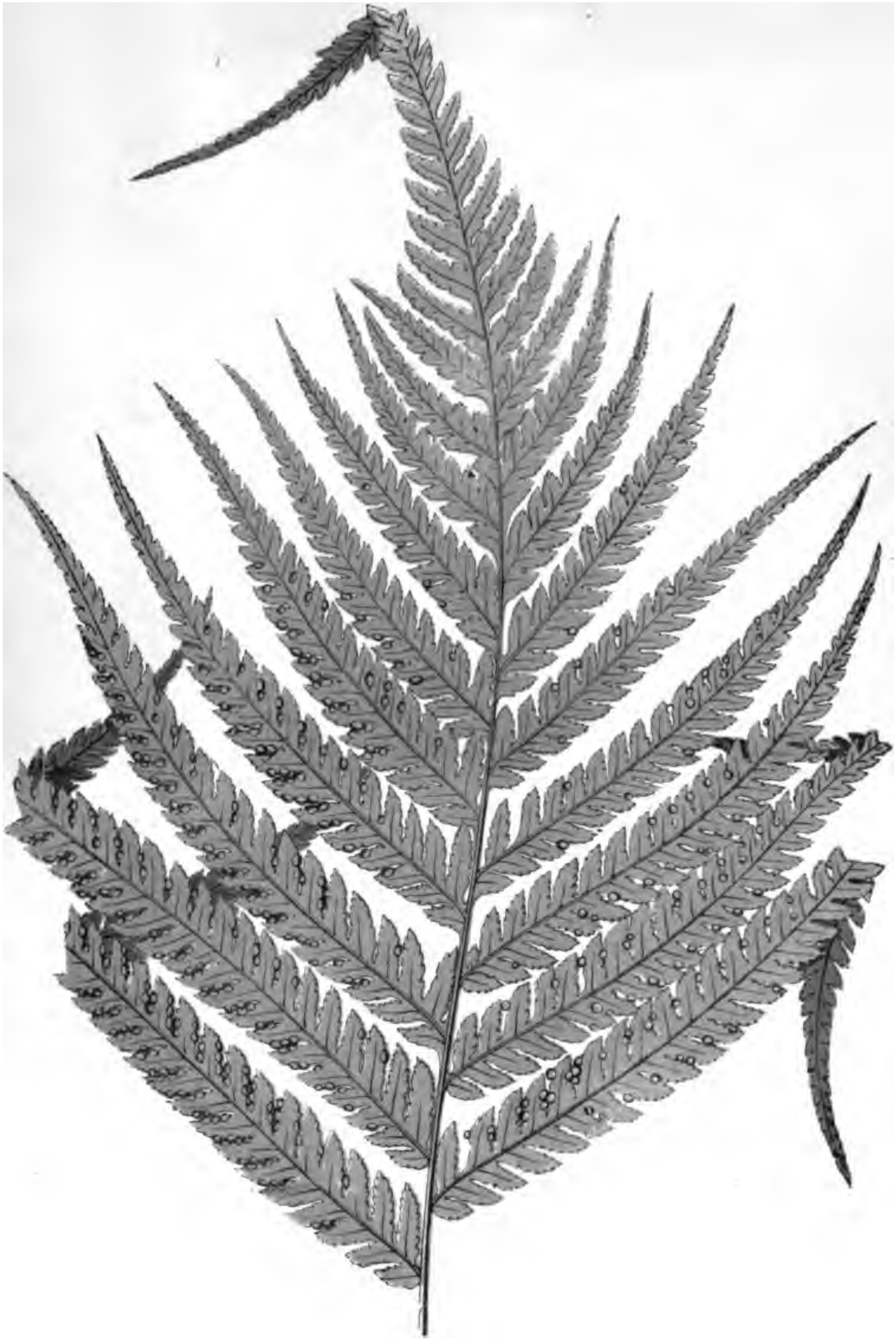
An interesting family of large Ferns, with fronds from five to fifteen feet in length. Decumbent, or erect and arborescent. Fronds usually glaucous beneath. Veins forked or pinnate. Venules free. Sori projecting from the margin, and always on the apex of a vein.

Tropical or subtropical, from Mexico, Assam, the Sandwich and Philippine Islands. Fronds bipinnate.

Sir W. J. Hooker, in his "Species Filicum," enumerates:—

C. glaucum, *Hooker and Arnott.* Sandwich Islands.
C. glaucescens, *Kunze.* Philippine Islands.
C. assamicum, *Hooker.* Assam.
C. chamissoi, *Kaulfuss.* Oahu.
C. menziesii, *Hooker.* Oahu.
C. schiedei, *Schlechtendal.* Mexico.

There are only two species in cultivation in England.



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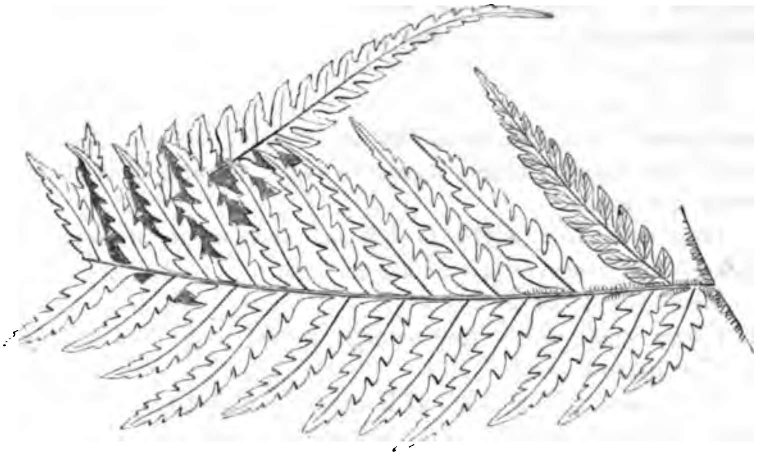


Pinna of mature Frond.

CIBOTIUM SCHIEDEI.

CHAMISSO AND SCHLECHTENDAL. HOOKER. J. SMITH.
LIEBMANN. MARTENS AND GALLEOTTI. FEE.
LINK. KUNZE. SCHOTT.

PLATE XXXV. VOL. VIII.

Cibotium—From *kibotion*—a little chest, in reference to the form of the indusium. *Schiedei*—Named in honour of Schiede.

THIS is the handsomest Fern of the genus, and very distinct; indeed it is the most graceful large species known. An arborescent species. Rising on a trunk from ten to fifteen feet high, according to Galleotti.

A stove Fern.

Native of Guatemala and Mexico. It was found at Hacienda de la Laguna, by Schiede and Deppe, and at Jalapa by Galleotti. Liebmann says it is found in the warm temperate regions of Mexico, at an elevation of from two thousand to four thousand feet above the sea.

Introduced by Mr. Hartweg, in 1846.

Fronds spreading, wide, triangular, smooth, and bipinnate, with small pinnules, lanceolate, acuminate, and thickly hirsute with long fulvous hairs; segments ovate, serrate, beneath somewhat glaucous.

Involucres from eight to ten on each segment, coriaceous, tawny, and transversely-oblong in form.

Veins simple or forked.

Pinnæ small, only three or four inches long, and ending in a very narrow point.

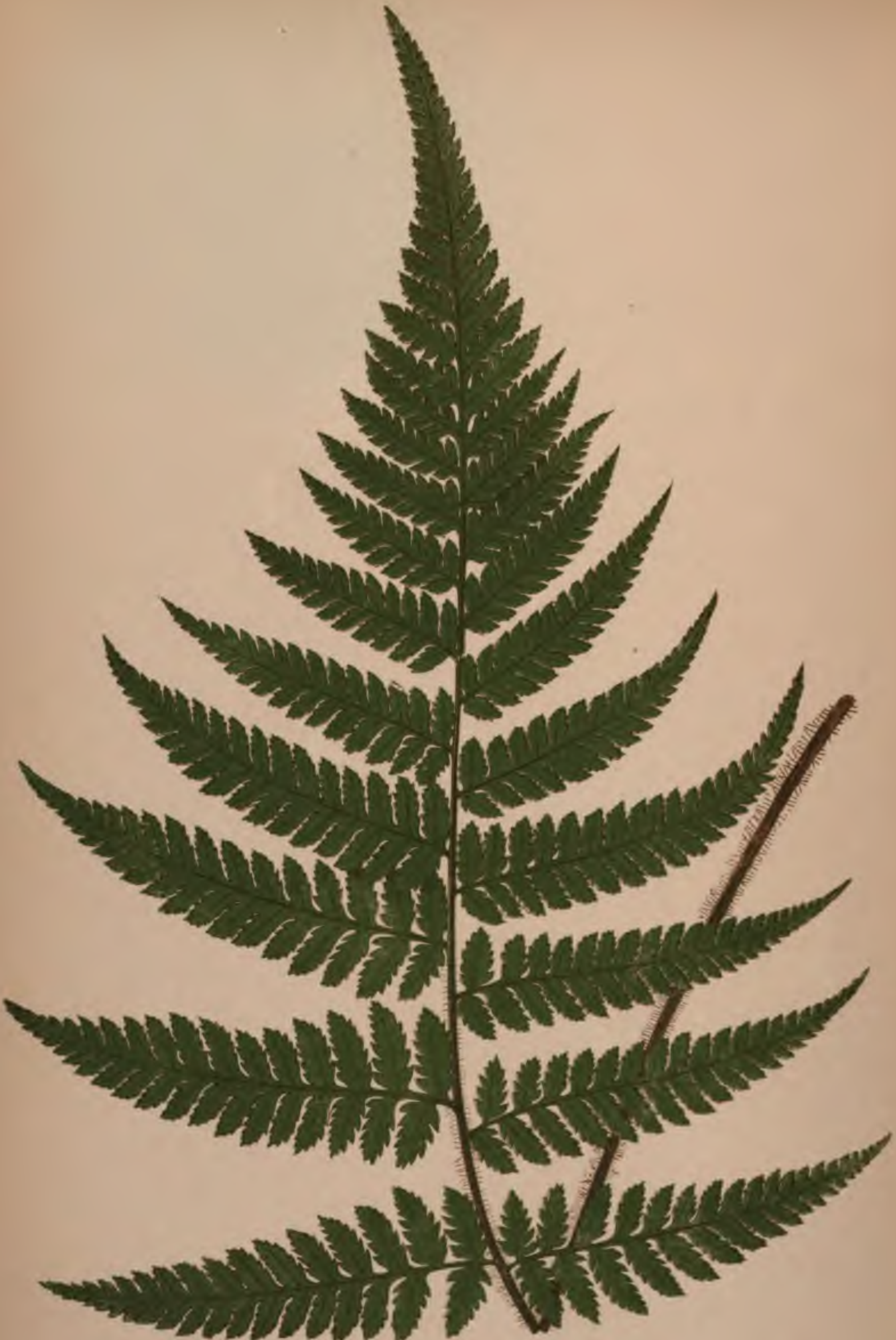
Stipes and rachis long, and very stout, brownish, and very hairy, rising from a crown densely covered with long, silky, shining brown hairs.

Length of frond from six to ten feet; colour yellowish green above, somewhat glaucous beneath.

For fronds I am indebted to M. Schott, Director of the Imperial Gardens of Schonbrünn, Vienna; Mr. J. Smith, Curator of the Royal Gardens, Kew; and to Mr. Sim, of Foot's Cray.

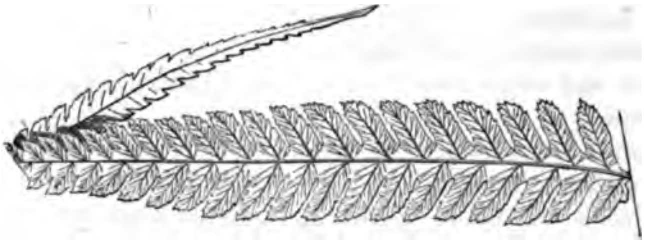
It is in the Catalogues of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; Jackson, of Kingston; A. Henderson, of Pineapple Place; Rollisson, of Tooting; and E. G. Henderson, of St. John's Wood.

The illustrations are from Mr. Smith's fronds.



CIBOTIUM GLAUCESCENS.

XXXVI—VOL. 8.



Pinna of fertile Frond—upper side.

CIBOTIUM GLAUCESCENS.

KUNZE. HOOKER. FEE. SCHOTT.

PLATE XXXVI. VOL. VIII.

Cibotium barometz,	J. SMITH.
" *glaucophyllum,*	PRESL. BERLIN GARDENS.
" *glaucum,*	J. SMITH. (*Not of* HOOKER AND ARNOTT.)
" *cumingii,*	KUNZE.
Aspidium barometz,	ENGLISH GARDENS.
Balantium glaucescens,	LINK. KUNZE.
Nephrodium barometz,	ENGLISH GARDENS.

Cibotium—From *kibotion*—a little chest, in reference to the form of the indusium. *Glaucescens*—Glaucous.

AN interesting greenhouse species.

Native of the Philippine Islands and China.

Fronds very large, spreading, triangular, and bipinnate; pinnæ linear-oblong, much acuminate, caudate, and profoundly pinnatifid; segments oblong-acute and serrate.

Veins usually simple.

Sori on the margin, solitary, (one on each side the base of the segments,) subcoriaceous, glaucous, and reniform.

Introduced into this country by Mr. Joseph Reeves, and received into the Royal Gardens, Kew, in 1834, from the Messrs. Loddiges.

Rhizoma creeping and massive.

Rachis and stipes stout, lengthy, and hirsute, especially so at the base.

Length of frond from six to eight feet; a bright shining green above, glaucous beneath.

My thanks are due to Messrs. E. G. Henderson, of St. John's Wood, and to Mr. Masters, of Canterbury, for plants of this Fern; and to Mr. Sim, of Foot's Cray, for fronds.

It may be procured from any of the principal Nurserymen.

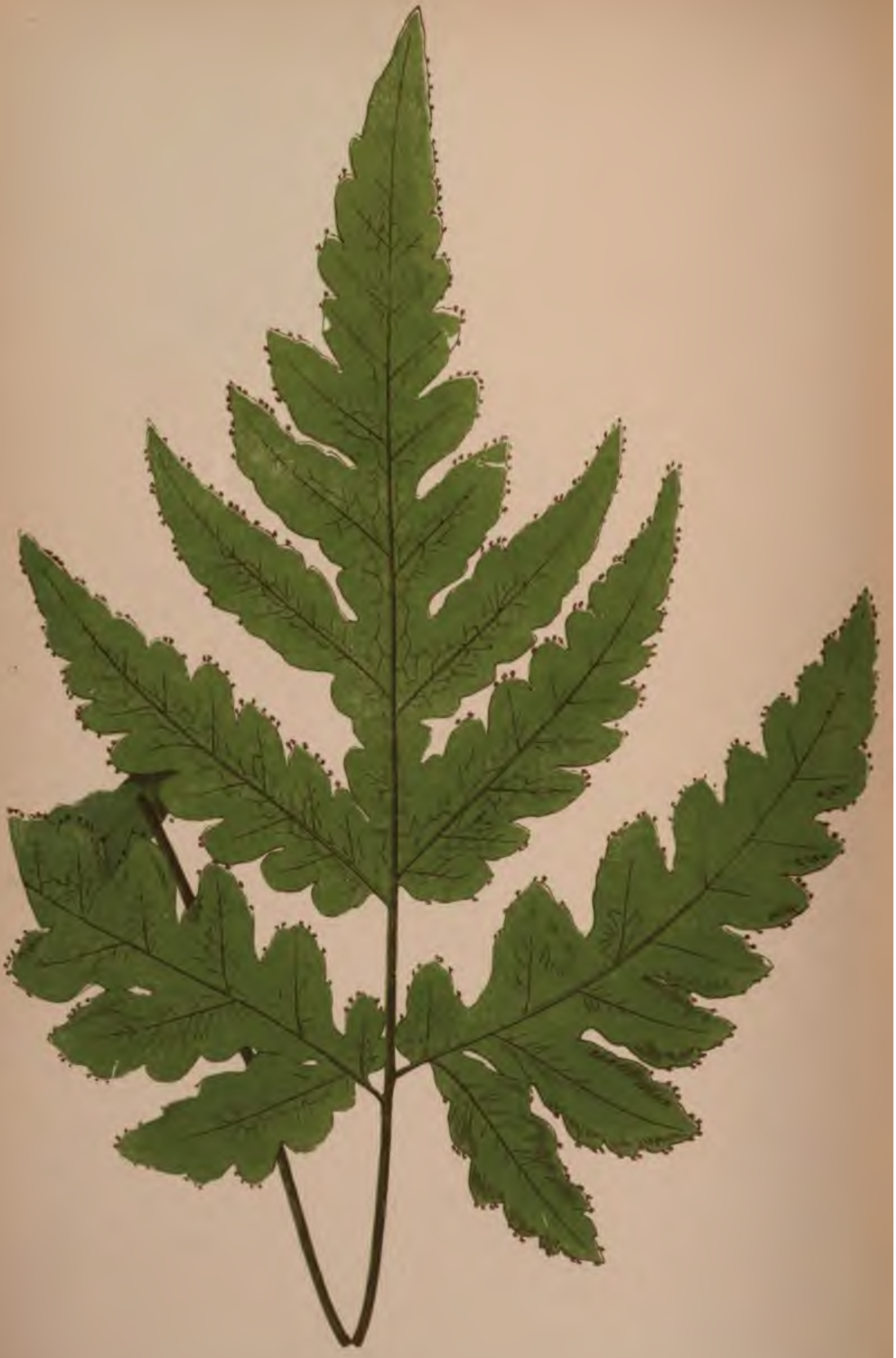
The illustrations are from Mr. Sim's fronds.

GENUS VI.

TRICHIOCARPA. J. Smith.

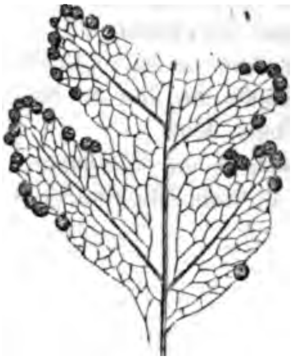
Fronds bi-tripinnatifid, deltoid, pinnæ distant, pinnate below, pinnatifid and decurrent above. Veins uniform and reticulated; the areoles transverse oblong; marginal veinlets free, and exserted beyond the margin, each becoming a pedicel, bearing a globose sorus. Indusium spreading, entire, and cyathiform. This genus differs from *Deparia*, and more especially in the distinctly reticulated veins.

A solitary example, from New Caledonia.



TRICHIOCARPA MOORII.

XXXVII—VOL. 8.



Portion of pinna of fertile Frond—under side.

TRICHIOCARPA MOORII.

J. SMITH.

PLATE XXXVII. VOL. VIII.

Deparia moorii,	HOOKER.
Cionidium moorii,	MOORE.

Trichiocarpa—From the Greek *trichos*—a hair, and *karpos*—fruit, in allusion to the spores being on a hair-like stem. *Moorii*—In honour of Mr. Thomas Moore, of the Chelsea Botanic Gardens.

AN interesting species, and rare in cultivation.

An evergreen stove Fern.

Native of New Caledonia.

The fronds deltoid, bi-tripinnatifid, and membranaceo-herbaceous. The pinnæ distant, pinnate below and pinnatifid decurrent above. Pinnules lanceolate, sinuose-lobed or pinnatifid. Veins pinnately forked from a central costa; venules reticulated, areoles transverse oblong, marginal veinlets free, exserted beyond the margin, each forming a pedicel for the sori at their extremity. Indusium spreading and entire.

Rhizoma brief and decumbent.

Length of frond from six to eighteen inches.

For fronds my thanks are due to Mr. J. Smith, the Curator of the Royal Gardens, Kew.

It does not appear in any Catalogue.

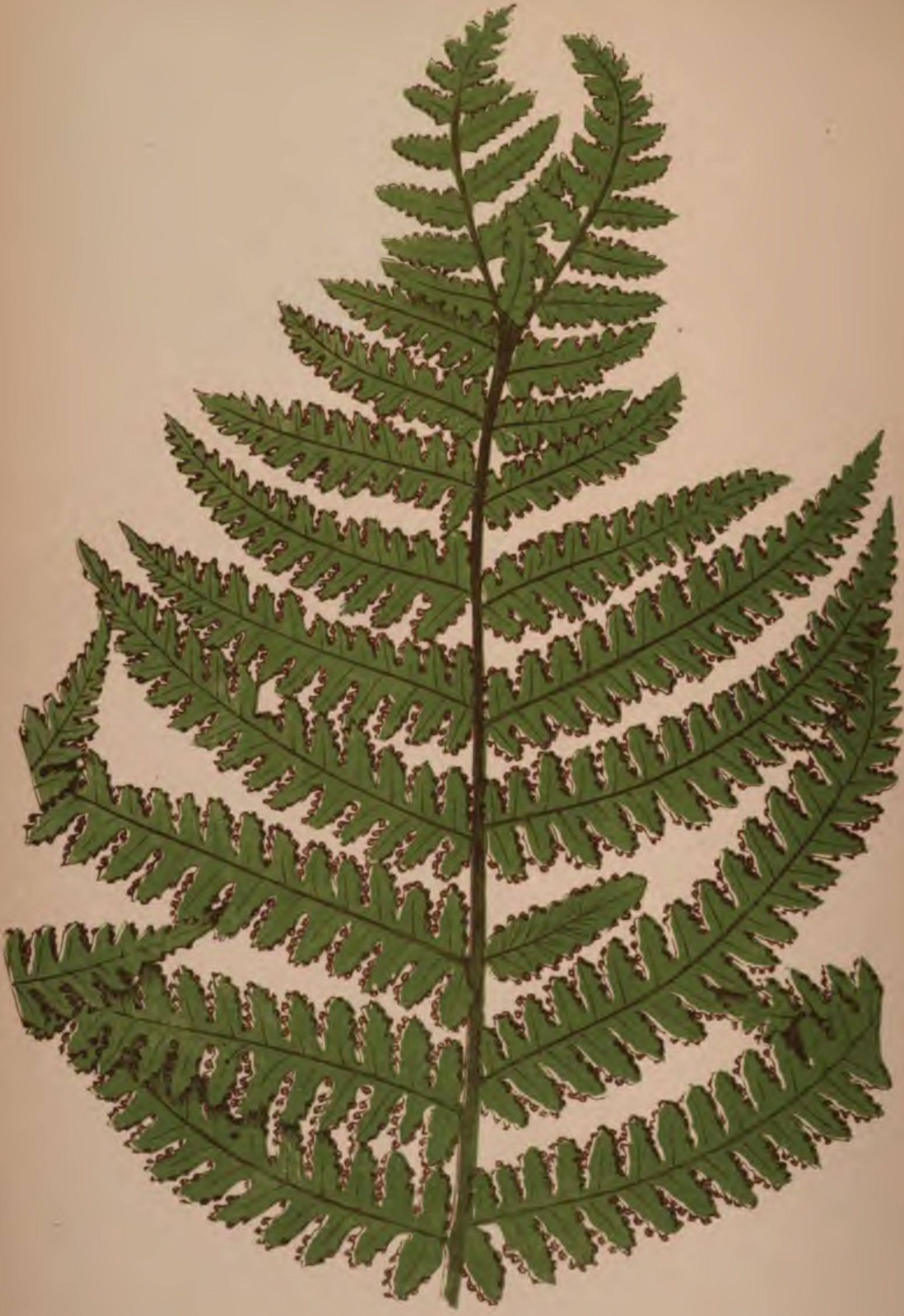
The illustration is from Mr. Smith's frond.

GENUS VII.

DEPARIA. Hooker and Greville.

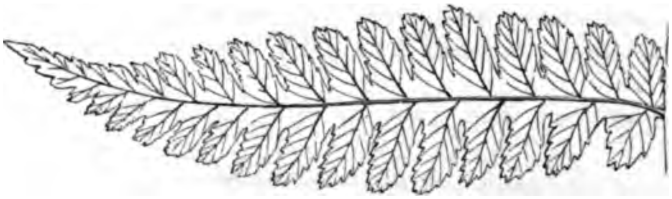
Fronds bipinnatifid. Veins pinnate, with free venules. Sori terminal and exserted. Indusium conniving, forming a calyciform, pedicellate, and vertical cyst.

Sir W. J. Hooker, in his "Species Filicum," gives two species, namely, *D. prolifera*, Hooker, and *D. matthewsii*, Hooker, the latter not yet introduced in a living state.



DEPARIA PROLIFERA.—APEX OF FROND.

XXXVIII—VOL. 8.



Pinna of barren Frond—upper side.

DEPARIA PROLIFERA.

HOOKER AND GREVILLE. FEE. HOOKER AND BAUER.

PLATE XXXVIII. VOL. VIII.

Dicksonia prolifera,	KAULFUSS.
Deparia macraei,	HOOKER AND GREVILLE.

Deparia—From the Greek—a little cup. *Prolifera*—Proliferous.

A PRETTY and distinct species, worthy of general cultivation, but as yet very rare.

An evergreen stove species.

Native of the Sandwich Islands, Oahu, according to Chamisso, and Owhyhee, according to Macrae.

Fronds spreading, triangular-elongate, herbaceous, pinnato-pinnatifid, and glabrous, the divisions profoundly cut into rounded lobes. Pinnæ sub-opposite below, alternate above, elongated, oblong-acuminate; segments distant, pinnules about twenty pairs on each pinna.

Veins simple, from a central costa; venules free, extending to the margin, and in the fertile fronds forming stalks to the sori.

Sori marginal, the indusia membranaceous, shallow cup-shaped, exserted, and stipitate.

Stipes at the base covered with long red scales.

Rhizoma stout, covered with dark coloured scales, and creeping.

Length of frond from fifteen to thirty inches; colour very pale green.

Each vigorous frond is viviparous near its point.

The margin of the fertile frond being fringed with stalked sori, the plant has a very attractive appearance, looking as if surrounded by a row of small fungi.

For fronds my thanks are due to Mr. J. Smith, of the Royal Gardens, Kew, and to Mr. Sim, of Foot's Cray.

The plant may be procured of Mr. Sim, of Foot's Cray.

The illustration is from Mr. Smith's fronds.

GENUS VIII.

DICKSONIA.

In this genus are the families of ***Sitolobium***, ***Balantium***, and ***Dicksonia***; all large Ferns, having veins simple or pinnate, and terminal sori. Some of the species are arborescent, growing to a great height.

Mr. Smith, in his "Catalogue of the Ferns grown at Kew," gives the following:—

Sitolobium punctilobum, *J. Sm.*
  adiantoides, *J. Smith.*
  davallioides, *J. Smith.*
  rubiginosum, *J. Smith.*
  moluccanum, *J. Smith.*

Balantium culcita, *Kaulfuss.*
Dicksonia lanata, *Colenso.*
  antarctica, *Labillardiere.*
  arborescens, *L'Heritier.*
  squarrosa, *Swartz.*

Sir W. J. Hooker, in his "Species Filicum," describes,—

Dicksonia arborescens, *L'Heritier*, St. Helena. Grows ten feet high.

D. antarctica, *Labillardiere*, Tasmania. Grows thirty-five feet high.

D. sellowiana, *Hooker*, Brazil.

D. berteroana, *Hooker*, Juan Fernandez. Grows fifteen feet high.

D. squarrosa, *Swartz*, New Zealand. Grows eight feet high.

D. fibrosa, *Colenso*, New Zealand. Grows eighteen feet high.

D. lanata, *Colenso*, New Zealand. Grows five feet high.

Culcita, *L'Heritier*, Madeira.
Coniifolia, *Hooker*, Caraccas.
Martiana, *Klotzsch*, Brazil.
Dubia, *Gaudichaud*, Tasmania.
Straminea, *Labillardiere*, New Caledonia.
Davallioides, *Brown*, Port Jackson.
Kaulfussiana, *Gaudichaud*, Sandwich Islands.
Abrupta, *Bory*, Bourbon.
Sorbifolia, *Smith*, East Indies.
Plumieri, *Hooker*, St. Domingo.
Lindeni, *Hooker*, Caraccas.

DOUBTFUL SPECIES.

Marginalis, *Swartz*, Japan.
Linearis, *Cavanilles*, Philippine Islands.
Japonica, *Swartz*, Japan.
Strigosa, *Swartz*, Japan.
Zeylanica, *Swartz*, Ceylon.
Madagascariensis, *Kunze*, Madagascar.

In the sub-genus *Patania*, (the *Sitolobium* of Desvaux,) Sir W. Hooker describes,—

Pavoni, *Hooker*, Peru.
Concinna, *Hooker*.
Adiantoides, *Hooker*, Caraccas.
Erosa, *Kunze*, Peru.
Ordinata, *Kaulfuss*, Porto-Rico.
Cicutaria, *Swartz*, Jamaica.
Cornuta, *Kaulfuss*, Brazil.
Dissecta, *Swartz*, Jamaica.
Apiifolia, *Swartz*, Jamaica.
Flaccida, *Swartz*, Pacific Isles.
Moluccana, *Blume*, Moluccas.
Scandens, *Blume*, Java.
Javanica, *Blume*, Java.
Distenta, *Kunze*, Mexico.
Rubiginosa, *Kaulfuss*, Brazil.
Punctiloba, *Hooker*, U. States.
Anthriscifolia, *Kaulfuss*, Bourbon.
Appendiculata, *Wallich*, Nepal.
Deltoidea, *Hooker*, Ceylon.
Scabra, *Wallich*, Nepal.
Cuneata, *Hooker*, Luzon.
Smithii, *Hooker*, Luzon.

DOUBTFUL SPECIES.

Obtusifolia, *Willdenow*, Caraccas.

Strigosa, *Swartz*, Japan.

Domingensis, *Desvaux*, Hispaniola.

Multifida, *Swartz*, East Indies.

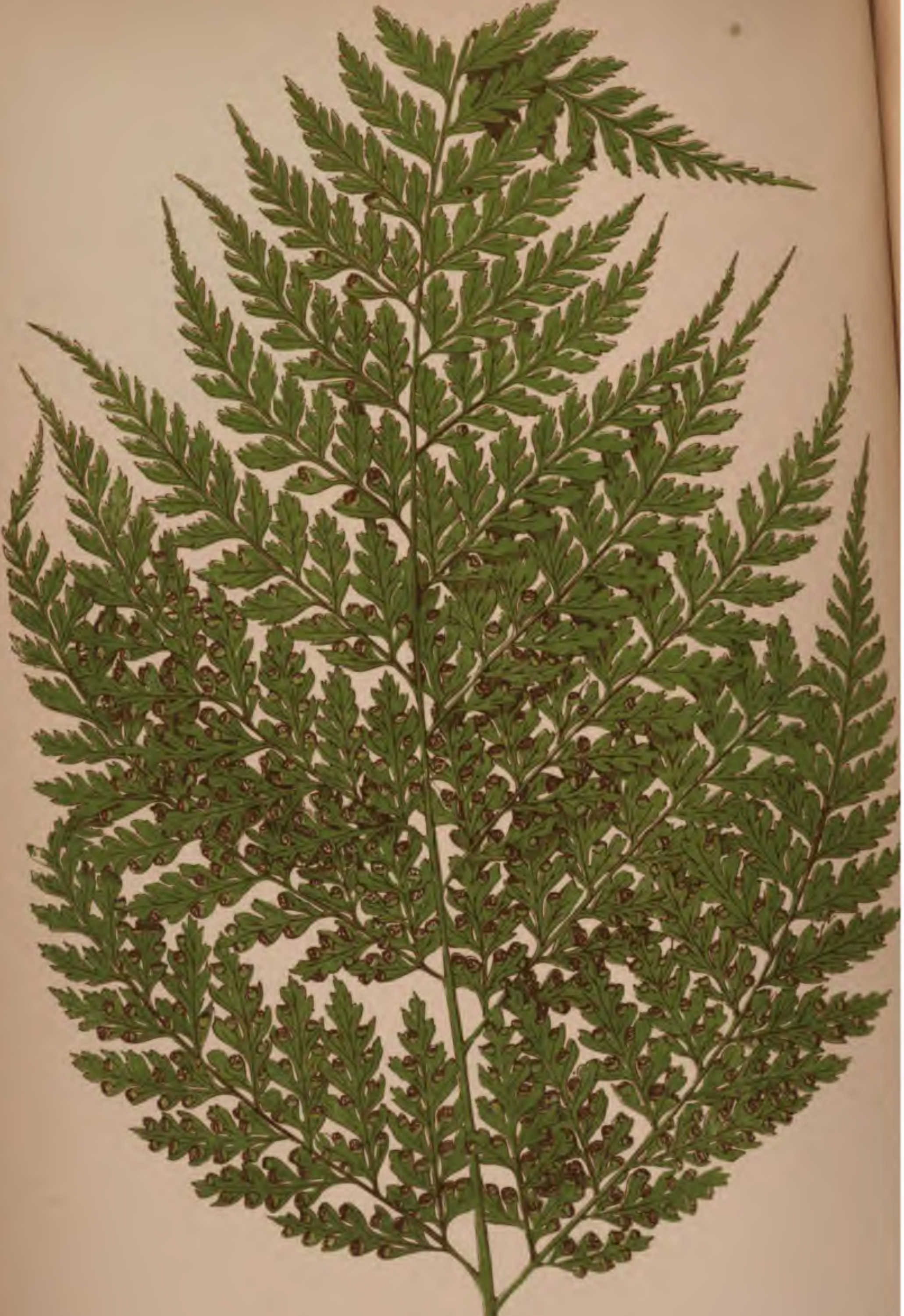
Millefolium, *Desvaux*, E. Indies.

Thus Sir W. J. Hooker describes fifty-one species, eleven of which are inserted doubtfully.

In the countries where the arborescent *Dicksonias* grow they are quite a feature, and indeed very useful, for New Zealand travellers make them their hotels, sleeping under the shadow of their fronds, and spreading their blankets upon cut fronds. It is necessary to consider for a moment how gigantic these Ferns are, rising to the height of from thirty to forty feet, and then spreading their branches in every direction to the distance of forty or fifty feet from their arborescent trunks, capable of affording shelter to a regiment of soldiers, if necessary.

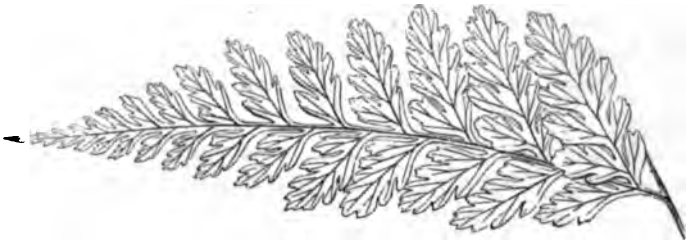
The *Dicksonias* are not the only large Ferns; the *Cyathea dealbata*, for instance, to be hereafter described, rises on a trunk fifteen feet high, and is perhaps the most magnificent of all Ferns,—singularly delicate in appearance, and the fronds covered beneath with a white or glaucous farina; then again the genus *Angiopteris*, the "Prince of Ferns," the somewhat similar-looking *Marattias*, &c., some of which are cultivated in this country, and will pass under our notice.

The *Dicksonias* are greenhouse or stove Ferns, with one solitary exception, from the United States and North America. We have, consequently, no British example. Perhaps the *Dicksonia antarctica* might live in the open air in the west of England, as in its native climate snow rests upon its fronds, and it has to withstand somewhat severe frosts, although they are only of short duration.



DICKSONIA CULCITA.—APEX OF FROND.

XXXIX—VOL. 8.



Portion of pinna of barren Frond.

DICKSONIA CULCITA.

L'HERITIER. HOOKER. MOORE.

PLATE XXXIX. VOL. VIII.

Balantium culcita,	KAULFUSS. HOOKER. J. SMITH.
" "	MOORE AND HOULSTON.
Culcita macrocarpa,	PRESL. HOOKER. FEE.

Dicksonia—Named after James Dickson, a British botanist.
Culcita—A cushion.

A VERY handsome, rare, large-growing Fern, having singular fructification; the form of the indusium somewhat resembling a purse; hence its name of *balantium* by Kaulfuss, from *balantion*—a purse. A robust, large-growing species, worthy of general cultivation.

An evergreen warm greenhouse Fern.

Native of Madeira and the mountains of the Azores, at an elevation of from two to three thousand feet, where it has been noticed by Masson, Guthnic, and Watson.

Fronds glabrous, sub-coriaceous, decompound, and tri-quadripinnate; ultimate segments oblong and dentate.

Veins pinnate; venules simple or forked, direct, and free.

Caudex creeping, and densely covered with brown hairs.

Stipes long, covered with dense, lengthy, fulvous, silky hair near the base.

Sori large, from one to three on each lobe or pinnule, nearly globose, exserted, the valves of the indusium concave and nearly equal.

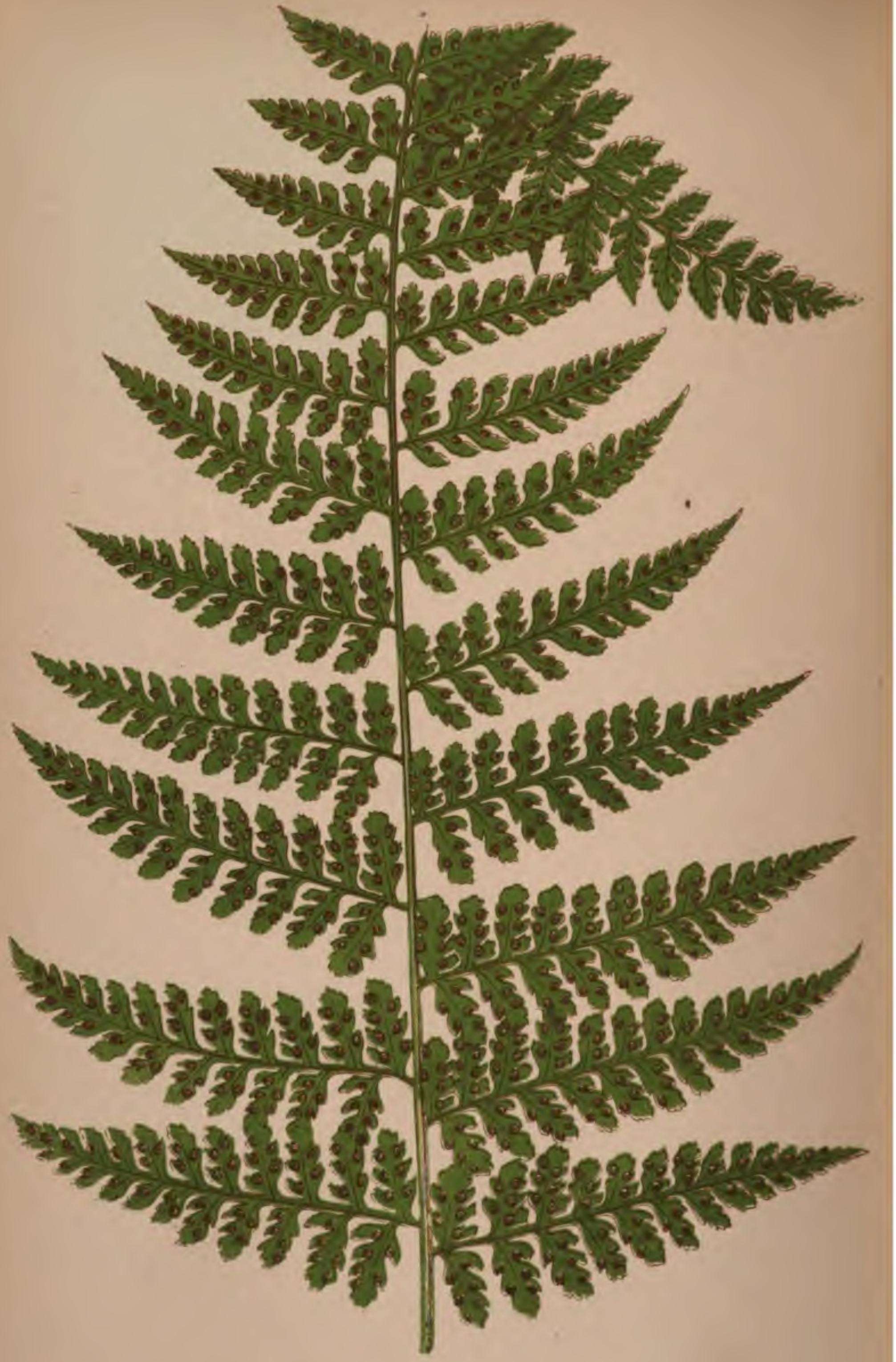
Fronds terminal, the fertile ones contracted.

Length of frond from forty to one hundred inches. Colour a rich dark shining green.

For fronds my thanks are tendered to Mr. J. Smith, Royal Gardens, Kew; Mr. D. Moore, of the Glasnevin Gardens, Dublin; and to Mr. Veitch, of the Exotic Nursery, Chelsea.

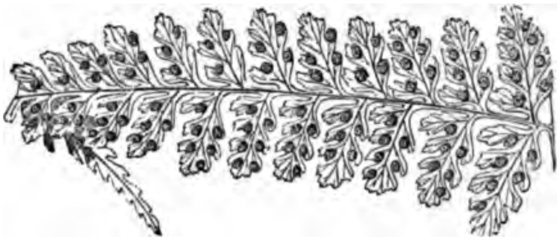
It may be procured of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; and E. G. Henderson, of the Wellington Nursery.

The illustration is from Mr. Veitch's fronds.



DICKSONIA CICUTARIA.—PORTION OF PINNA.

XL—VOL 8.



Portion of pinna of fertile Frond - under side.

DICKSONIA CICUTARIA.

Swartz. Hooker.
Willdenow. Fee. Sloane. Liebmann.

PLATE XL. VOL. VIII.

Dicksonia adiantoides,	Humboldt. Link. Schott. (*Not of* Hooker, Presl, *or* Liebmann.)
Sitolobium "	J. Smith. Moore and Houlston.
Polypodium globuliferum,	Plumier.
Dicksonia hookeriana,	Klotzsch. Sloane. Plumier.
" *tenera*	Martius. Hooker. Link.
" *dissecta,*	Sieber.
Patania erosa,	Presl.
Dennstædtia adiantoides,	Moore.

Dicksonia—Named after James Dickson, a British botanist.
Cicutaria—Cow-bane like.

In the Section Sitolobium of Authors.

A very handsome Fern of large size, spreading its fronds on stout erect stalks, easily cultivated, and wherever grown, freely springing up from spores.

A very variable species. An evergreen stove species.

Native of the West Indies, Tropical and South America, Brazil, Mexico—at an elevation of from two to four thousand feet—Jamaica, Cocos Island, Guayaquil, Guatemala, and Peru.

Raised from spores in the Royal Gardens, Kew, in 1834.

The fronds, which are glabrous, are triangularly-elongate in form, spreading, and tripinnate.

The pinnæ and pinnules triangularly elongate-acuminate, with flat, oblong, somewhat pinnatifid lobes, rounded at the apex, crenate on the margin, and decurrent.

Rachis, costa, and veins glabrous, or hairy.

Sori globose, exserted, and produced as little cups on the apices of the venules, the special and accessory indusium about equal and forming a reflexed calyciform cyst, containing the spore-cases.

Fertile segments contracted, and having a very elegant appearance.

Rhizoma creeping.

Veins pinnate; venules direct and free.

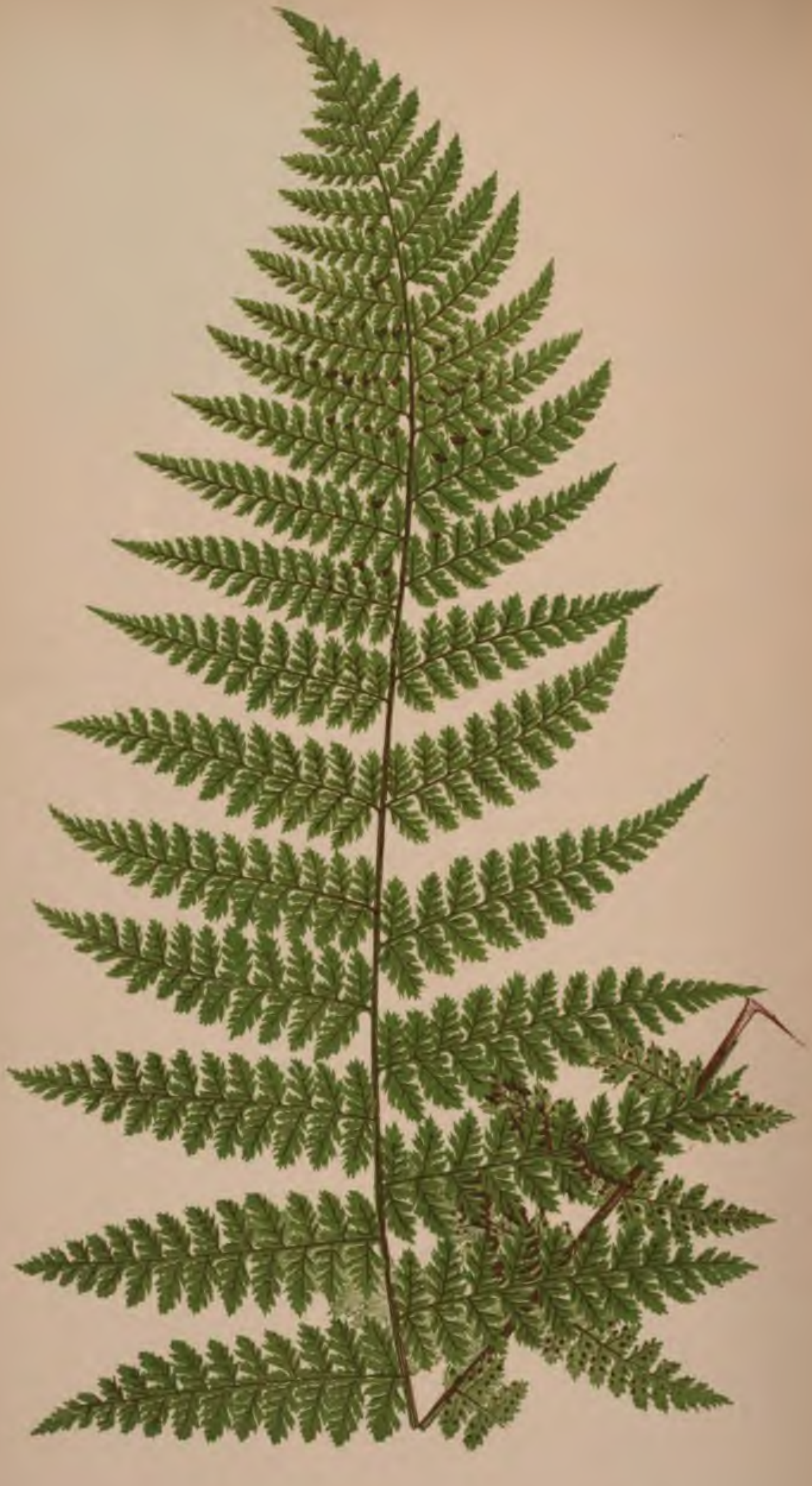
Length of frond from four to eight feet. Colour a pale vivid shining green.

Amongst the different forms of this species may be mentioned.—The Fern known as *Dicksonia tenera* of Martius, found in Brazil, is more membranaceous. Another known as *Dicksonia dissecta* of Sieber, has the barren segments more cuneate, and serrated above: it is a native of Peru and Guatemala. A third form, *Patania erosa* of Presl, has larger and more hairy pinnules than in the normal form, and which are less profoundly lobed, and brighter green in colour.

For plants my thanks are due to Sir Oswald Mosley, Bart., of Rolleston Hall; Mrs. Delves, of Tunbridge Wells; Mr. Sim, of Foot's Cray; Mr. Downs, of Ilfracombe; Mr. Lamb, gardener to Mr. F. Wright, of Osmaston Manor, near Ashbourne; and to Mr. Stewart, late gardener to Lord Vernon, at Sudbury, Staffordshire; and for fronds to M. Schott, Director of the Imperial Gardens of Schonbrünn, near Vienna; and to Mr. G. Norman, of Hull.

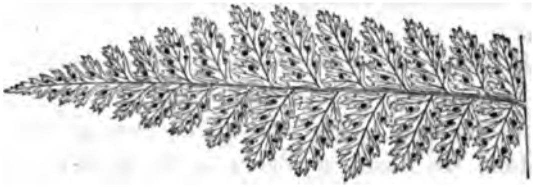
It is in the Catalogues of Messrs. Rollisson, of Tooting; Sim, of Foot's Cray; A. Henderson, of Pine-apple Place; and Cooling, of Derby.

The illustration is from a plant in my own collection.



DICKSONIA DAVALLIOIDES.—PINNA.

XLI—VOL. 8.



Portion of pinna of fertile Frond—under side.

DICKSONIA DAVALLIOIDES.

R. Brown. Hooker. Link.

PLATE XLI. VOL. VIII.

Sitolobium davallioides,	J. Smith. Moore and Houlston.
Dennstædtia "	Moore.

Dicksonia—Named after James Dickson, a British botanist.
Davallioides—Davallia-like.

In the Section Sitolobium of Authors.

A delicate-looking species, easily cultivated, having erect fronds from twelve to fifteen inches wide, on lengthy dark stalks.

An evergreen warm greenhouse Fern.

Native of New Holland, found at Port Jackson.

Raised from spores in the Royal Gardens, Kew, in 1833.

Fronds very membranaceous, flaccid, deltoid, tripinnate, and slightly pubescent; pinnæ lanceolate, pinnules oblong, profoundly pinnatifid, and having small oblong dentate segments.

Veins pinnate; venules direct and free.

Rhizoma creeping, or scandent, slender and elongated.

Sori small, few, having glabrous involucres, the exterior valv being smaller.

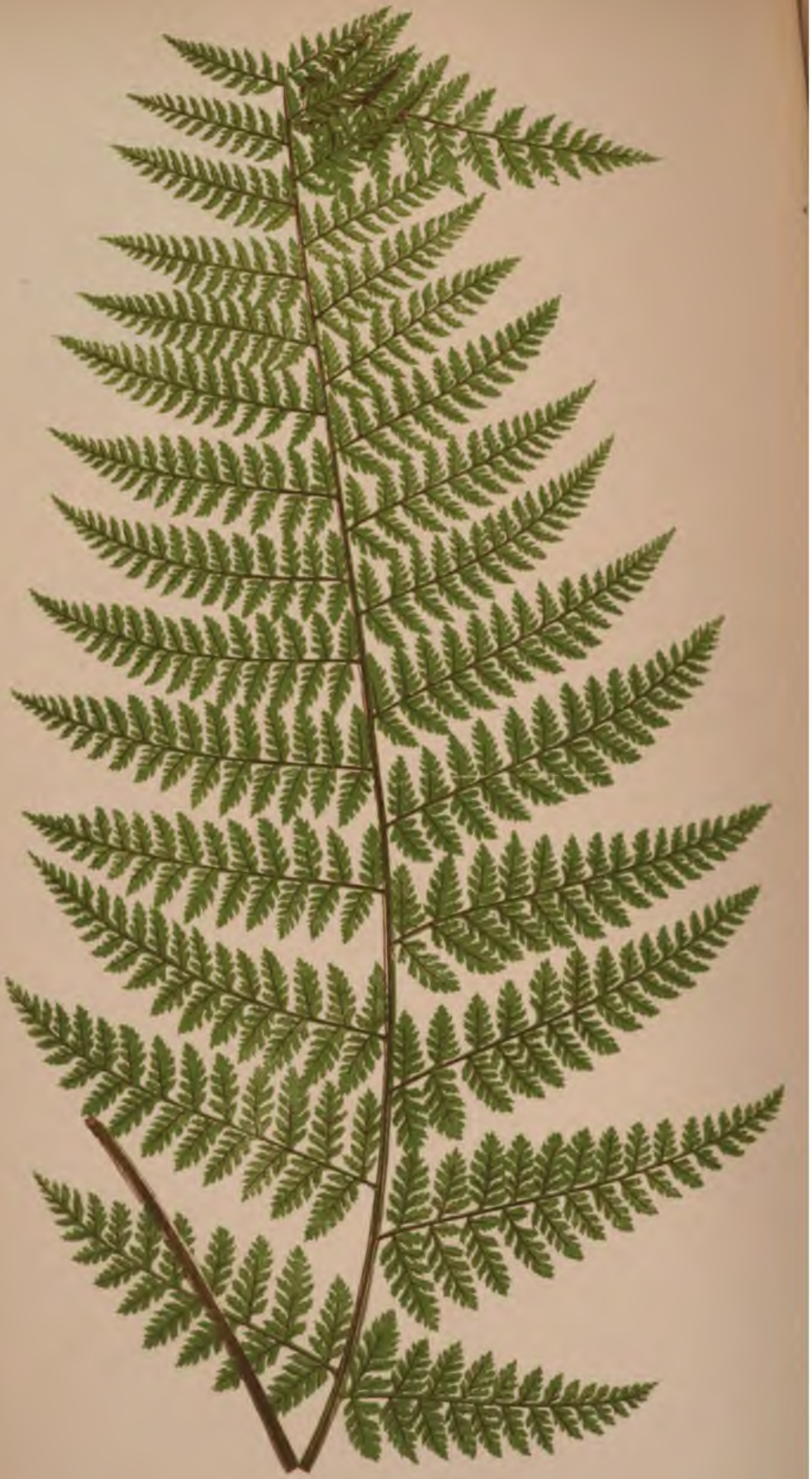
Length of frond from twenty-four to thirty-six inches. Colou deep green.

Sir W. J. Hooker remarks that the present species is closel allied to *Dicksonia dubia* of Gaudichaud.

For plants my thanks are due to Sir Oswald Mosley, Bart Rolleston Hall; Mr. Lamb, gardener to Mr. F. Wright, Osmasto Manor; and to Mr. Stewart, late gardener to Lord Verno Sudbury; for fronds to Mr. Joseph Henderson, of Wentwort and Mr. Norman, of Hull.

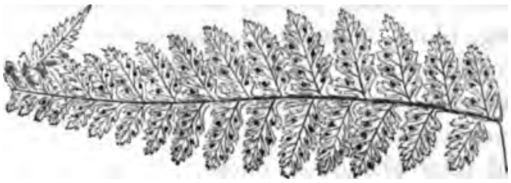
It may be procured of Messrs. Veitch, of Chelsea; Sim, Foot's Cray; Rollisson, of Tooting; E. G. Henderson, of S John's Wood; Stansfield, of Todmorden; Booth, of Hambur and Cooling, of Derby.

The illustration is from a plant in my own collection.



DICKSONIA PUNCTILOBA.

XLII—VOL. 8.



Pinna of fertile Frond--under side.

DICKSONIA PUNCTILOBA.

Hooker. Fee.

PLATE XLII. VOL. VIII.

Sitolobium punctilobum,	J. Smith. Moore and Houlston.
" *pilosiusculum,*	Desvaux. J. Smith.
Dicksonia pubescens,	Schkuhr. Presl.
" *pilosiuscula,*	Willdenow. Hooker. (*Not* Raddi.)
" *punctilobula,*	Kunze.
Nephrodium punctilobum,	Michaux. Richard.
Aspidium "	Swartz.
Dennstædtia punctilobula,	Moore.
Adectum pilosiusculum,	Link.

Dicksonia—Named after James Dickson, a British botanist.
Punctiloba—Dotted-lobed.

In the Section Sitolobium of Authors.

An interesting well-known species, somewhat resembling *Asplenium filix-fœmina,* and having an upright habit, the only hardy species, and readily cultivated in ordinary soils.

A hardy deciduous Fern.

Native of the United States and Canada.

Cultivated in the Royal Gardens, Kew, in the year 1822.

Fronds membranaceous, sub-tripinnate, lanceolate in form, pinnæ lanceolate, pinnules oblong, adnate, profoundly pinnatifid, having oblong, blunt, inciso-dentate segments.

Veins pinnate; venules direct and free.

Sori minute—seldom more than one, in the sinus or upper margin of each segment.

Rachis and costa glanduloso-pilose.

Fronds lateral.

Rhizoma slender and creeping.

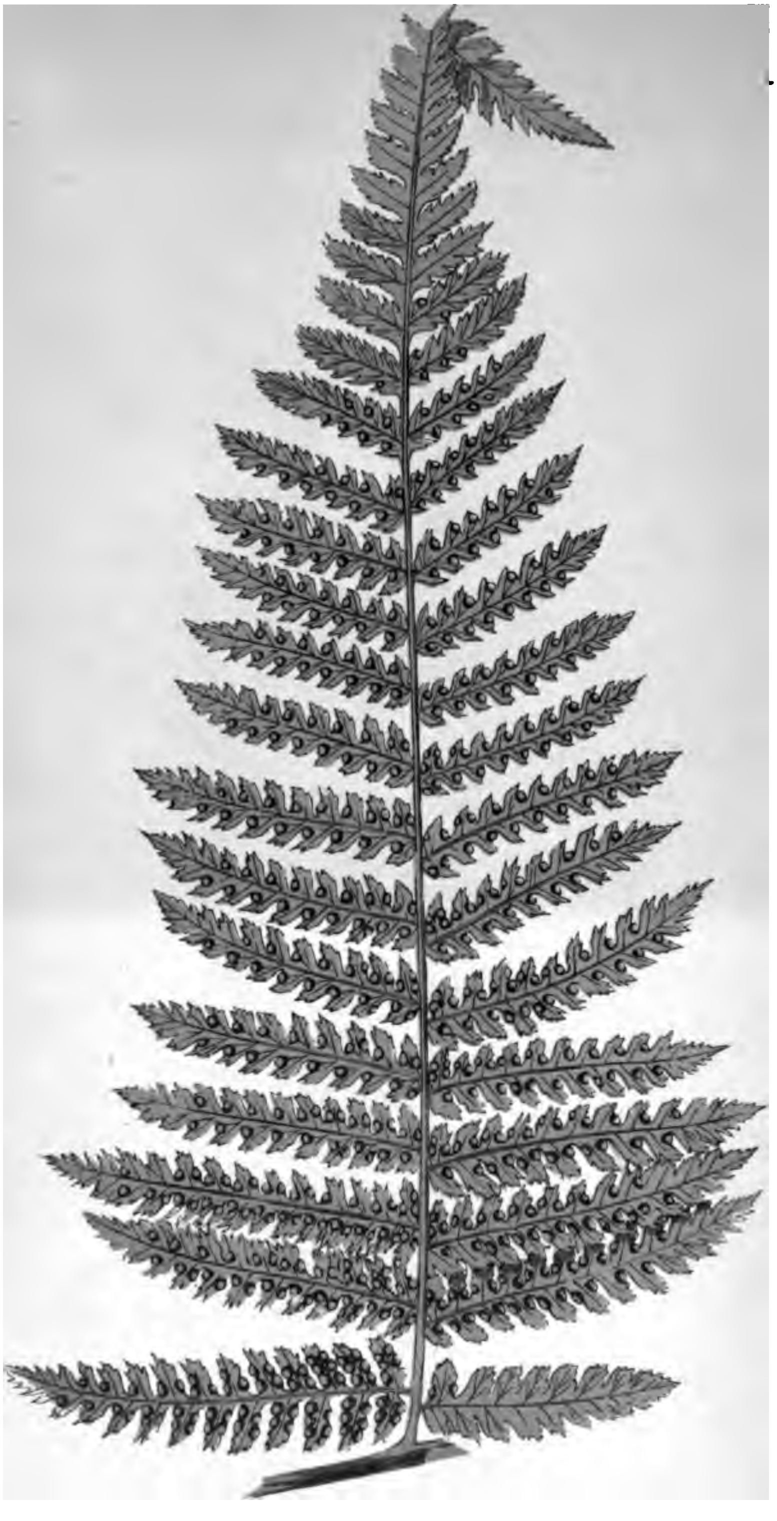
Length of frond from twelve to twenty-four inches. Colour very light green; when dried pale straw-colour.

Stipes reddish brown.

For a plant my thanks are due to Mr. Joseph Henderson, of Wentworth; and for fronds to Mr. George Norman, of Hull.

It may be procured of Messrs. Sim, of Foot's Cray; A. Henderson, of Pine-apple Place; Stansfield, of Todmorden; Pearson, of Chilwell; and E. Cooling, of Derby.

The illustration is from a plant in my own collection.



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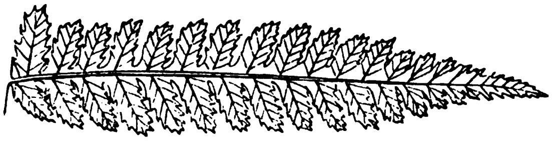


Portion of pinna of barren Frond.

DICKSONIA ANTARCTICA.

LABILLARDIERE. J. SMITH. HOOKER. BROWN.
MOORE AND HOULSTON.

PLATE XLIII. VOL. VIII.

Balantium antarcticum,	PRESL. FEE. SCHOTT.
Cibotium billardieri,	KAULFUSS.

Dicksonia—Named after James Dickson, a British botanist.
Antarctica—Antarctic.

THIS magnificent species is a universal favourite; wherever grown or exhibited it is certain to attract universal attention. A large and rapid grower, easily cultivated, and requiring little or no care, provided sufficient room is allowed for the expansion of its fronds, and the plant is liberally supplied with water: all fast-growing Ferns require abundance of water, most of the large species growing wildly in moist and boggy situations.

An evergreen warm greenhouse species.

Native of New Holland, Tasmania, and Australia.

Introduced into the Royal Gardens, Kew, in 1824, by Mr. A. Cunningham.

Fronds glabrous, coriaceous, lanceolate in form, sub-tripinnate, and drooping; pinnæ and pinnules linear-lanceolate, rigid, and profoundly pinnatifid; segments ovate, very acute, and inciso-serrate.

Sori confined to the lower pinnæ, globose in form, and produced on the apices of the venules, small in size, but numerous. Indusium coriaceous.

Veins pinnate; venules simple, direct, and free.

Stipes brief, and, as well as the rachis, covered with hair-like ruddy scales.

Fronds terminal, adherent to an arborescent caudex or trunk, rising to the height of about thirty-five feet.

Fronds very large, from six to twelve feet in cultivated plants in England, and much larger when growing in their native countries. Colour a rich, shining, dark green, paler beneath.

There are some very fine specimens at His Grace the Duke of Devonshire's seat, at Chatsworth; at Earl Fitzwilliam's seat, at Wentworth, Yorkshire; others at the Royal Gardens, Kew, the Crystal Palace, etc. The specimen at Wentworth is of very great size. In Tasmania it gives so great a feature to the landscape where it grows, as to merit the appellation of the "Fern Valley," etc.

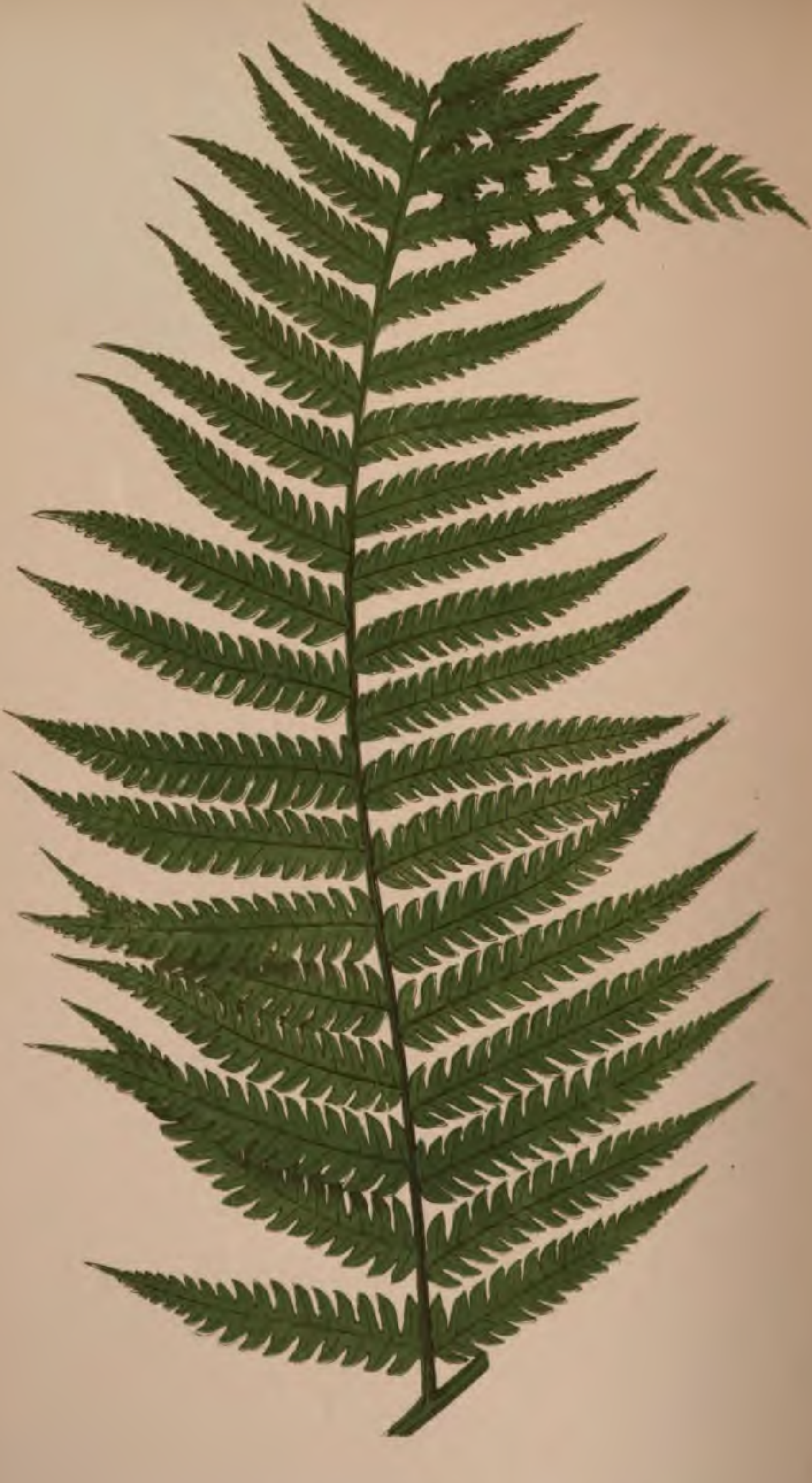
The magnificent plant at Wentworth House, was sent to Mr. Joseph Henderson, from Australia, rather more than twenty-five years ago; the caudex was then little more than two feet long, and the plant had on one small frond, which it had recently made, all the fronds having been cut off previous to transportation from its native country to its destination. Mr. Henderson can form no idea as to the age of the plant, as it might have been sixty, eighty, or a hundred years old before it left Australia. The plant has thrived well since it was deposited in the Fern house at Wentworth, and the height of the caudex is now four feet and a half, and the girth three feet from the surface of the tub in which it grows is three feet. The length of the longest frond is eleven feet, and the width, from point to point of the opposite pinnæ, three feet two inches. The number of fronds upon the tree is fifty-six. This plant covers an area of eighteen feet six inches in diameter, which is a circumference of no less than fifty-five feet six inches. It is a noble specimen, and well worth a long journey to behold.

I may here remark that there exists a very fine collection of Ferns at Wentworth, under the able management of Mr. Joseph Henderson, a gentleman who for many years has made this branch of Cryptogamic botany his favourite study, and who is noted for his kindness to those who feel a desire to see the collection, or who wish for information on any subject connected with it. I myself am especially obligated for much valuable information, as well as many plants and fronds: indeed, the present work is largely indebted to Mr. Henderson, for the kind assistance he has rendered from time to time.

For a plant and fronds my thanks are due to Mr. Joseph Henderson, of Wentworth.

It may be procured from Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; Rollisson, of Tooting; E. G. Henderson, of St. John's Wood; A. Henderson, of Pine-apple Place; Stansfield, of Todmorden; Booth, of Hamburg; and Cooling, of Derby.

The illustration is from Mr. Henderson's fronds.



DICKSONIA SQUARROSA.—PINNA.

XLIV—Vol. 8.

Portion of pinna of barren Frond.

DICKSONIA SQUARROSA.

SWARTZ. SCHKUHR. J. SMITH. HOOKER.
MOORE AND HOULSTON.

PLATE XLIV. VOL. VIII.

Trichomanes squarrosum,	FORSTER.
Balantium squarrosum,	KUNZE. FEE.

Dicksonia—After James Dickson, a British botanist.
Squarrosa—Rough and scurfy.

ANOTHER fine tree Fern, and very beautiful, bearing graceful fronds.

An evergreen warm greenhouse species.

Native of New Zealand.

Introduced into the Royal Gardens, Kew, in 1842, by Mr. J. Edgerly.

Fronds coriaceous, ovate-lanceolate in form, and tripinnate; ultimate pinnæ oblong and profoundly pinnatifid; segments somewhat ovate, pungent, and mucronately-serrated. Beneath the segments there are small lacerated scales.

Veins pinnate; venules simple, direct, and free.

Sori globose, small, one on each lobe; both valves of the involucre concave, and nearly equal.

Fertile segments much smaller, and contracted.

Fronds terminal, adherent to an arborescent caudex, which rises ten feet or more high, and is covered with the base of the old stalks.

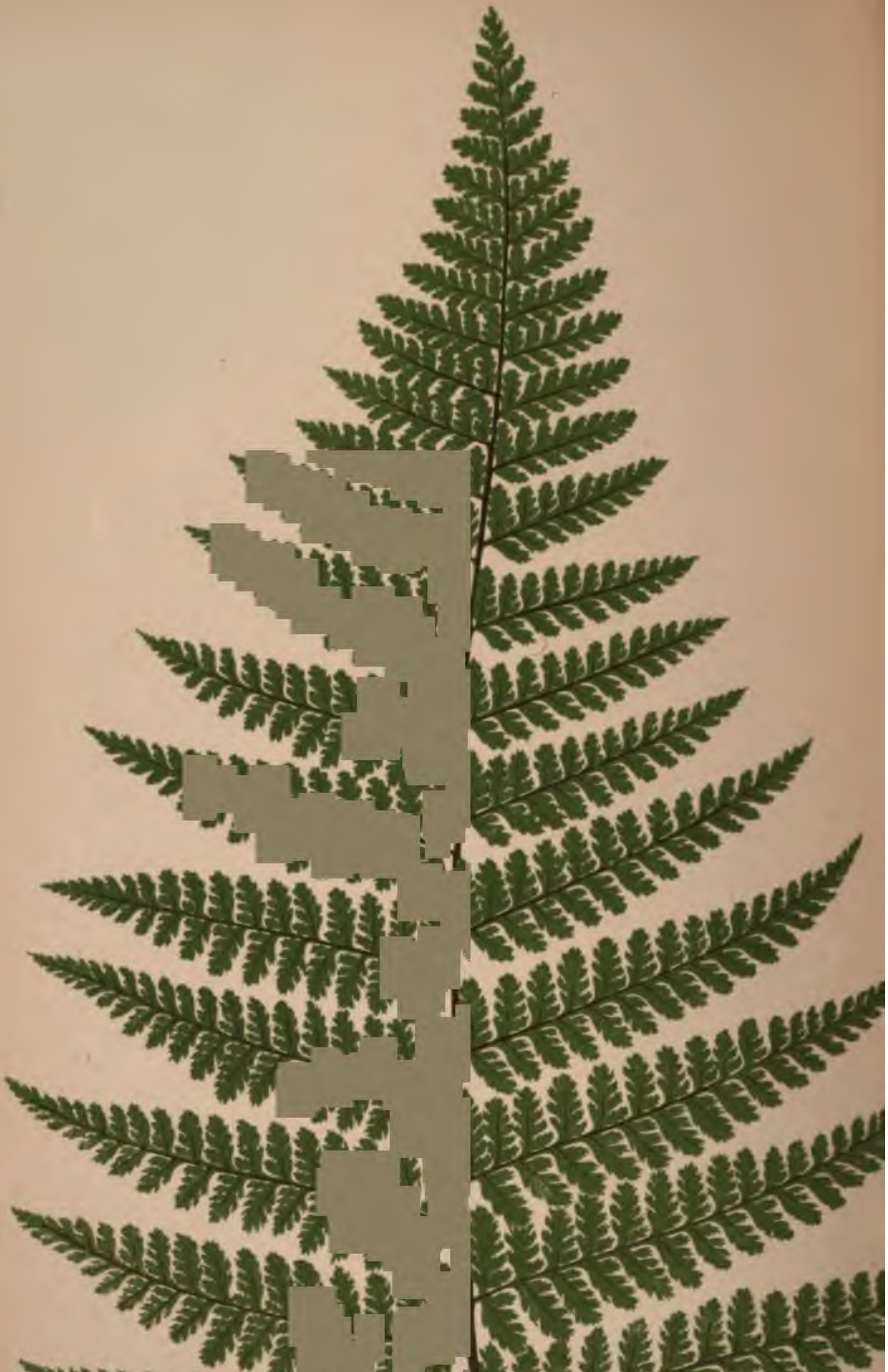
Stipes and rachis dark purplish or blackish, covered with raised points and blackish hairs.

Length of frond from ten to fifteen feet; colour a deep rich, bright green.

For fronds my thanks are due to Mr. Joseph Henderson of Wentworth, and to Mr. Ingram, of the Royal Gardens Windsor.

It may be procured of Messrs. Veitch, Jun., Exotic Nursery Chelsea.

The illustration is from Mr. Henderson's frond.



DICKSONIA RUBIGINOSA.—PORTION OF PINNA.

XLV.—VOL. I.

Portion of pinna of fertile Frond—under side.

DICKSONIA RUBIGINOSA.

KAULFUSS. KUNZE. HOOKER. LINK. PRESL.
FEE. LIEBMANN. SCHOTT.

PLATE XLV. VOL. VIII.

Sitolobium rubiginosum, J. SMITH. MOORE AND HOULSTON.

Dicksonia—Named after James Dickson, a British botanist.
Rubiginosa—Rusty.

IN THE SECTION SITOLOBIUM OF AUTHORS.

A STRAGGLING-growing species.

An evergreen stove Fern.

Native of Tropical America, Brazil, (Rio Janeiro, Tejuca, and Bahia,) Mexico, (temperate regions of,) Columbia, Peru, Guatemala, and Jamaica.

Raised in the Royal Gardens, Kew, in 1841.

The fronds, which are spreading and membranaceous, are hairy, triangularly elongate in form, and tripinnate; pinnæ oblong-obtuse, very hairy beneath; pinnules oblong-acuminate; segments pinnatifid, rounded at the apex, and largest on the upper side next the rachis, the margin being obtusely-dentate.

Veins pinnate; venules direct and free.

Rachis and stipes reddish brown and hairy.

Lateral; rhizoma scandent.

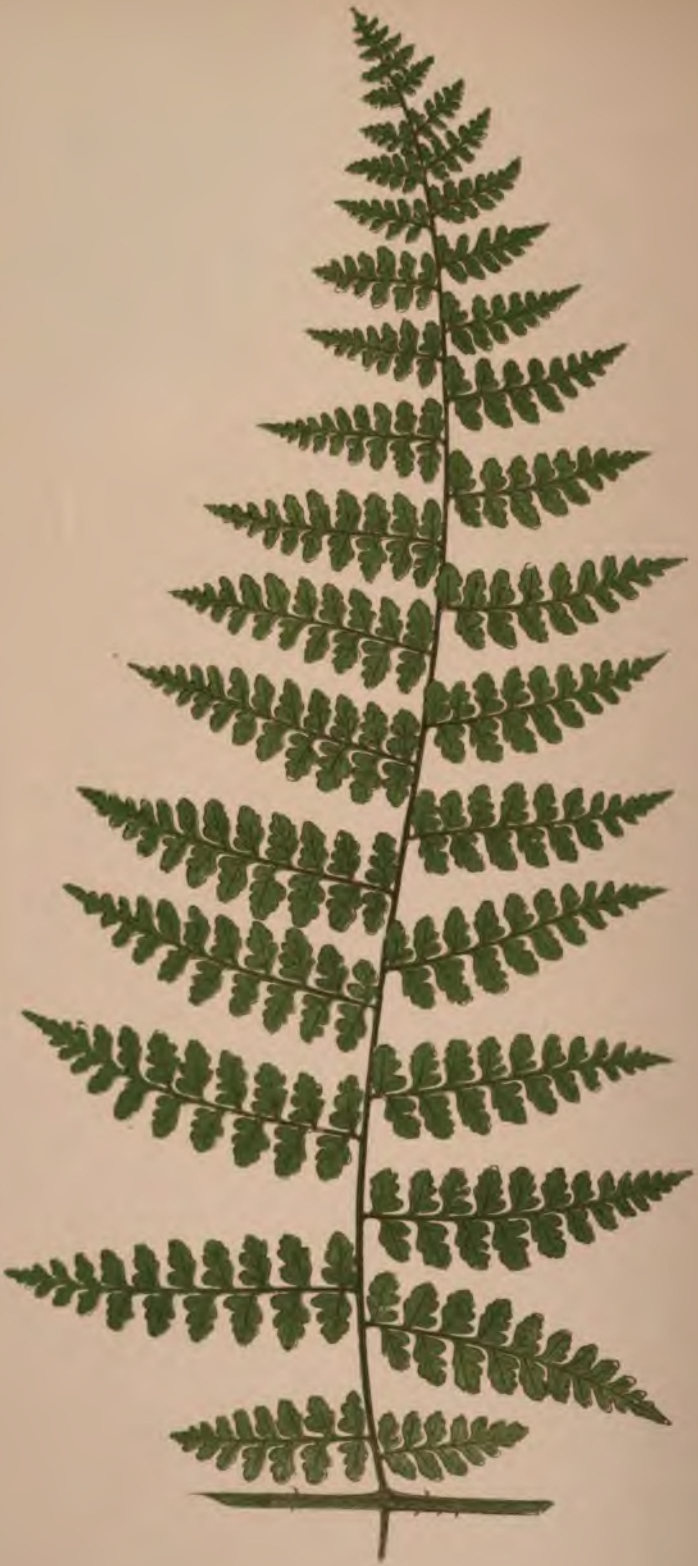
Sori remarkably small for a *Dicksonia*, situate chiefly on the upper superior margin in the sinuses of the sharp teeth, and cup-shaped.

Length of frond from thirty-five to seventy inches; colour darkish green.

For a plant my thanks are due to Mr. James, of Vauvert; to Mr. J. Smith, of the Royal Gardens, Kew; and Mr. G. Norman, of Hull.

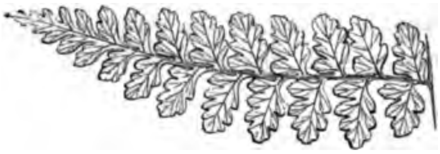
It may be procured of Messrs. A. Henderson, of Pine-apple Place; Booth, of Hamburg; and E. Cooling, of Derby.

The illustration is from Mr. Smith's frond.



MICROLEPIA MOLUCCANA.—[illegible]

XLVI—Vol. 6.



Portion of pinna of barren Frond.

DICKSONIA MOLUCCANA.

BLUME. HOOKER. FEE. LOBB.

PLATE XLVI. VOL. VIII.

Sitolobium moluccanum, J. SMITH.

Dicksonia—Named after James Dickson, a British botanist.
Moluccana—From the mountains of the Moluccas.

IN THE SECTION SITOLOBIUM OF AUTHORS.

A DISTINCT, yet not common species.

A warm greenhouse Fern.

Native of the mountains of the Moluccas, where it was found by Blume.

Fronds coriaceous, tri-pinnatifid, somewhat lengthy, triangular in form; pinnæ opposite, oblong-lanceolate in shape, acuminate, pinnules lanceolate, profoundly pinnatifid, bluntly toothed on the upper margin.

Rachis and stipes aculeate or thorny, the latter scandent.

Fronds somewhat downy beneath.

Veins pinnate; venules direct and free.

Sori globose.

My thanks are due to Mr. George Norman, of Hull, for plant of this Fern; and to Mr. J. Smith, Curator of the Roy Gardens, Kew, for fronds.

It does not appear in any of the Nurserymen's Catalogues.

The illustration is from Mr. Smith's frond.

GLEICHENIÆ. J. SMITH.

HAVING globose or pyriform sessile sporangia, opening vertically; ring transverse.

Sori punctiform and naked.

GENUS I.

GLEICHENIA. BROWN.

A MOST remarkable and at the same time handsome group of Ferns, making (under successful cultivation) magnificent plants. The most aristocratic-looking genus of Ferns. The fronds varying from ten to seventy inches, and being dichotomously branched.

Veins forked, either simply or pinnately; venules free, the exterior one bearing sporangia on its apex. Sori punctiform and naked, non-indusiate, superficial, or immersed, consisting of but few spore-cases, which are sessile and deciduous.

Sir W. J. Hooker describes the following:—

Speluncæ, *Brown*, New South Wales.
Rupestris, *Brown*, New South Wales.
Alpina, *Brown*, Tasmania.
Polypodioides, *Smith*, South Africa.
Microphylla, *Brown*, Tasmania.
Dicarpa, *Brown*, Tasmania.
Semivestita, *Labillardicre*, New Caledonia.
Hecistophylla, *A. Cunningham*, New Zealand.
Longissima, *Blume*, Java.
Vulcanica, *Blume*, Java.
Glauca, *Swartz*, Japan.
Gigantea, *Wallich*, Nepal.
Bancroftii, *Hooker*, Jamaica.
Excelsa, *J. Smith*, Luzon.
Flabellata, *Brown*, New Holland.
Tenera, *Brown*, Tasmania.
Cunninghami, *Heward*, New Zealand.
Pedalis, *Kaulfuss*, Chili.
Cryptocarpa, *Hooker*, Chiloe.
Acutifolia, *Hooker*, Patagonia.

Revoluta, *Hooker*, Quito.
Simplex, *Hooker*, Quito.
Pubescens, *Willdenow*, Brazil.
Mathewsii, *Hooker*, Peru.
Farinosa, *Kaulfuss*, Trinidad.
Owhyhensis, *Hooker*, Owhyhee.
Longipinnata, *Hooker*, Surinam.
Flagellaris, *Sprengel*, Mauritius.
Lævigata, *Willdenow*, Java.
Ferruginea, *Blume*, Java.
Vestita, *Blume*, Java.
Bifurcata, *Blume*, Java.
Hirta, *Blume*, Moluccas.
Rufinervis, *Martius*, Brazil.
Glaucescens, *Willdenow*, Brazil.
Nervosa, *Kaulfuss*, Brazil.
Dichotoma, *Willdenow*, Eas Indies.
Klotzschii, *Hooker*, Brazil.

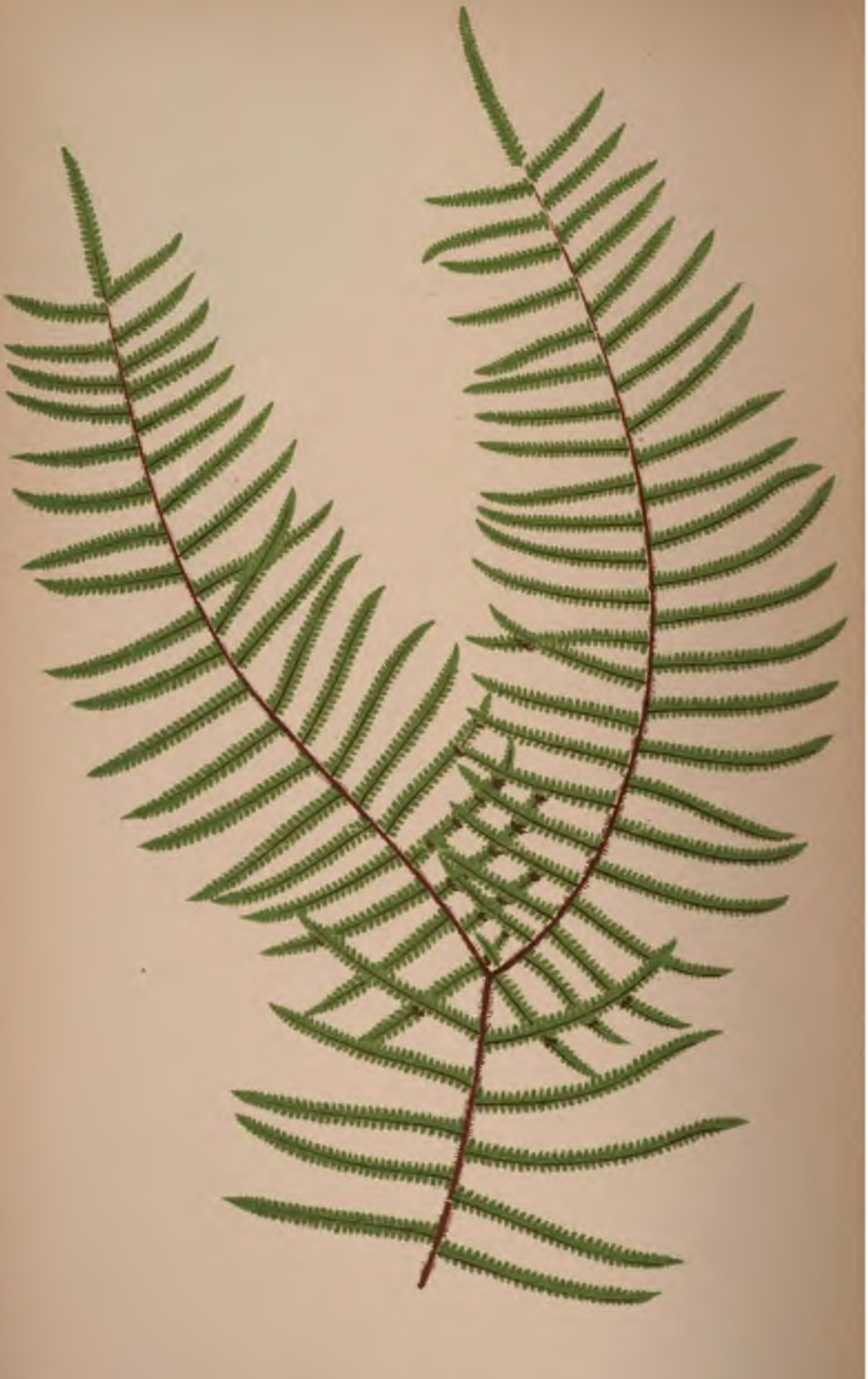
DOUBTFUL SPECIES.

Tenuis, *Presl*, (perhaps glaucescens.)
Nitida, *Presl*, (perhaps dichotoma.)
Remota, *Kaulfuss*, Brazil.
Tomentosa, *Swartz*, (perhap pubescens.)
Fulva, *Desvaux*.
Elata, *Desvaux*.
Truncata, *Willdenow*.
Cumingiana, *Presl*.

Altogether Sir W. J. Hooker enumerates forty-six species, th last eight of which are only mentioned as doubtful species.

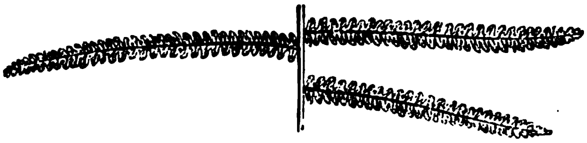
Mr. J. Smith, in his "Catalogue of the Ferns of Kew," gives microphylla, dicarpa, speluncæ, flabellata, and dichotoma.

Mr. Sim, in his Catalogue, adds also, hecistophylla, semivestita, rupestris, species (Australia.)



GLEICHENIA MICROPHYLLA.

XLVII—VOL. 8.



Portion of mature branch.

GLEICHENIA MICROPHYLLA.

BROWN. HOOKER. J. SMITH.

PLATE XLVII. VOL. VIII.

Gleichenia speluncæ,	GUILLEMIN. *(Not of* BROWN, HOOKER, MOORE, *nor* SMITH.)
" *circinata?*	SWARTZ.
" *circinalis,*	SWARTZ. MOORE.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Microphylla*—Small-leaved.

AN exceedingly elegant Fern, of large size, with a very dense symmetrical habit.

A warm greenhouse species.

Native of Tasmania and Port Jackson, in New Holland.

Introduced into the Royal Gardens, Kew, in 1845, having been received from Mr. R. Gunn.

Fronds dichotomous divaricated; the branches pinnate; the pinnæ pinnatifid and glabrous; segments sub-rotund, nearly plane, and having the margins somewhat recurved, exposing the sori more to view than in *Gleichenia semivestita.*

The rachis and branches covered with chaffy ferruginous hairs.

Veins indistinct.

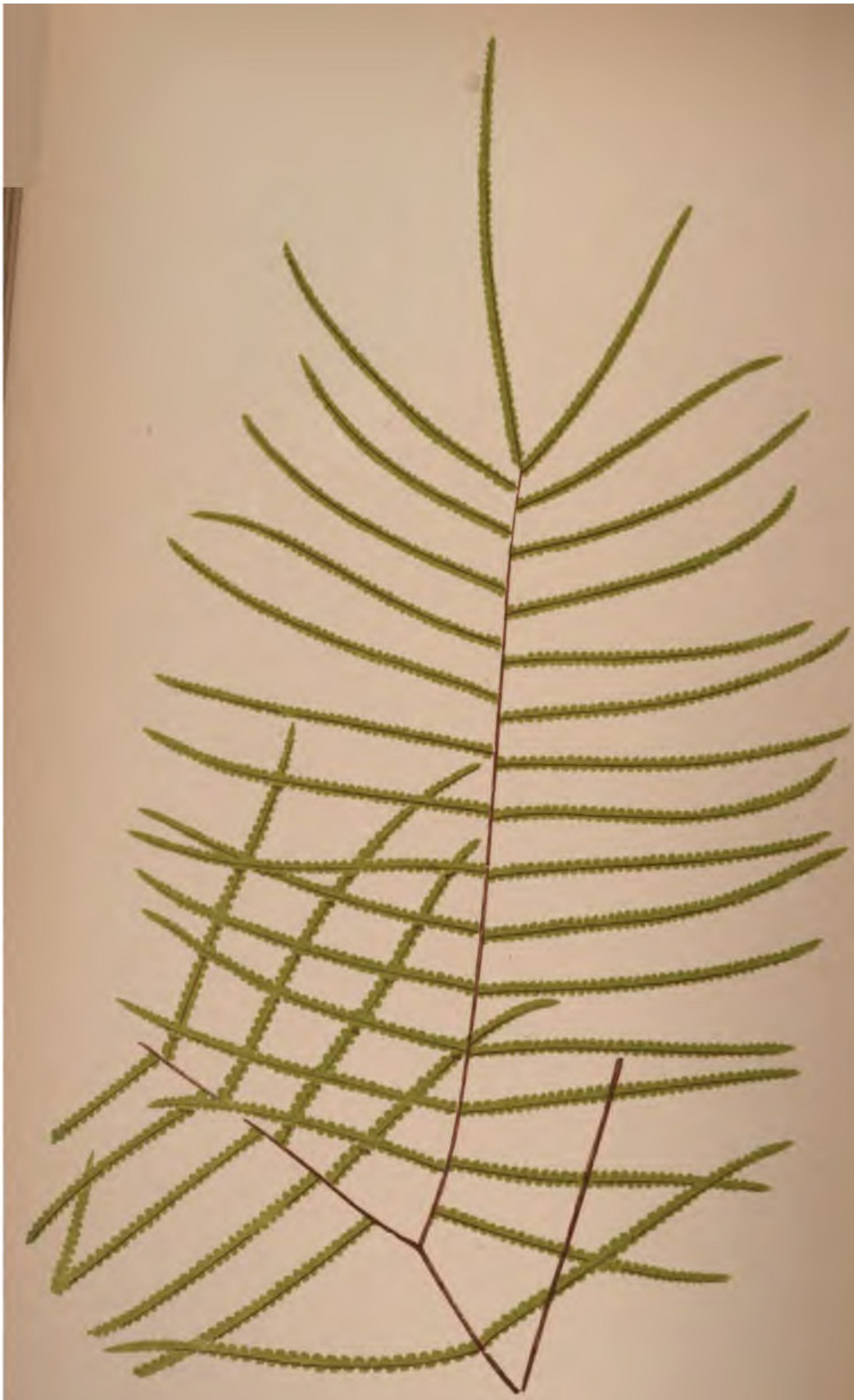
Sori terminal, composed of three or four exserted, lax, deciduous capsules or spore-cases, situated at the apex of a veinlet, punctiform and naked.

This species grows to the height of three or four feet, and is of a rich green colour.

For fronds my thanks are due to Mr. Smith, Curator of the Royal Gardens, Kew; Mr. Moore, of the Glasnevin Gardens Mr. Sim, of Foot's Cray; Messrs. Rollisson, of Tooting; and Messrs. Veitch, of Chelsea.

It may be procured of Messrs. Veitch, of Chelsea; R. Sim, of Foot's Cray; and E. G. Henderson, of St. John's Wood.

The illustration is from Mr. Veitch's frond.



GLEICHENIA DICARPA.

XLVIII—VOL. 5.

Pinna of mature Frond.

GLEICHENIA DICARPA.

BROWN. HOOKER. MOORE. KUNZE. J. SMITH.

PLATE XLVIII. VOL. VIII.

Gleichenia microphylla, SIEBER.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Dicarpa*—Bearing two crops.

A SOMEWHAT similar-looking elegant species to *Gleichenia hecistophylla,* yet smaller in size.

A warm greenhouse Fern.

Native of Tasmania.

Fronds dichotomous divaricated; branches pinnate, the pinnæ pinnatifid; segments very small and orbicular, with a broad recurved margin.

Branches nearly glabrous.

Rachis very hairy. Veins immersed and indistinct.

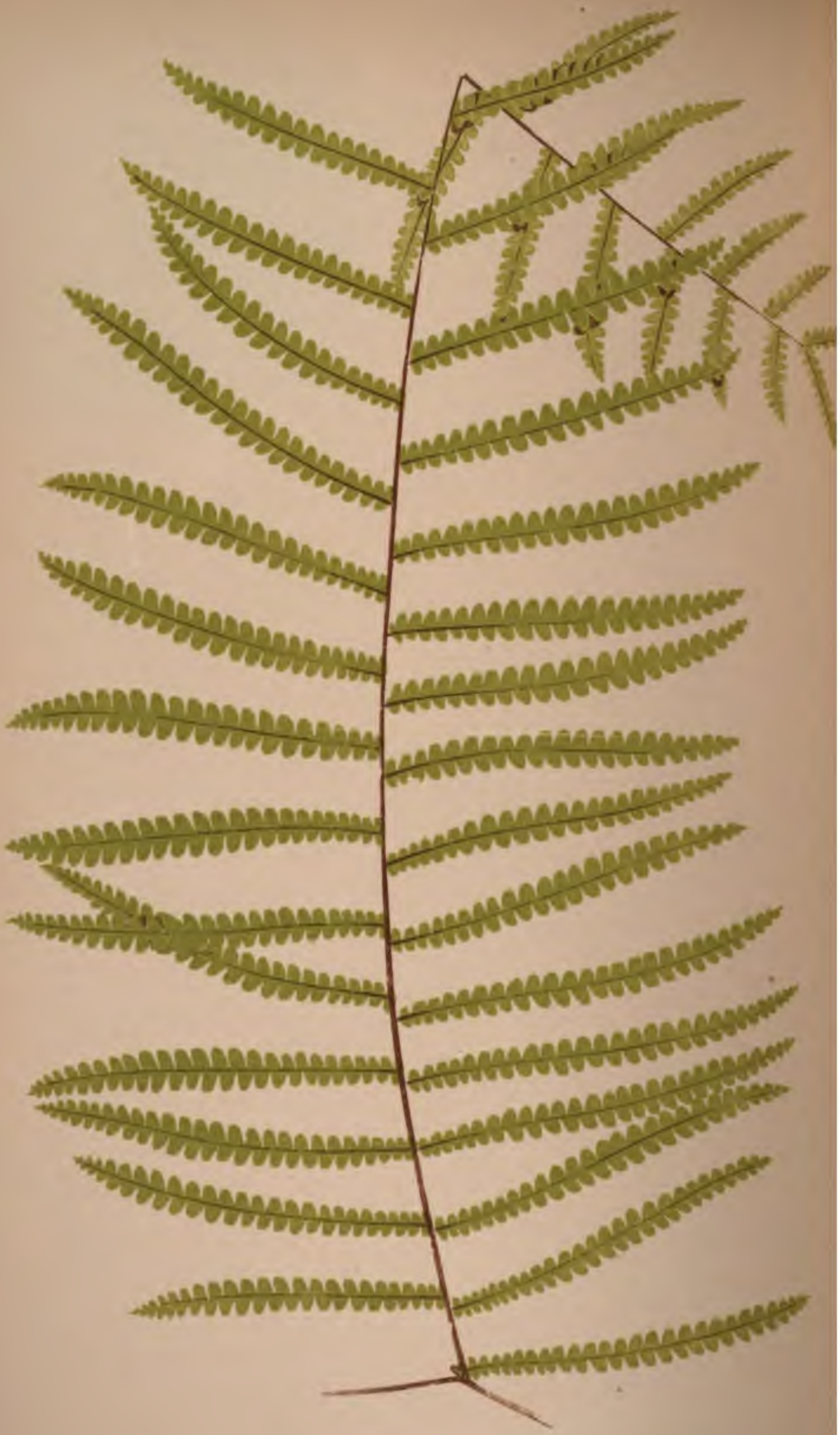
Sori terminal, situated at the apex of a veinlet, and consisting of two spore-cases, placed within the hollow of the segment, punctiform and naked.

This species attains the height of from twelve to eighteen inches.

For fronds my thanks are due to Mr. D. Moore, of the Glasnevin Gardens; Mr. J. Smith, of the Royal Gardens, Kew; Mr. Sim, of Foot's Cray; and Mr. Veitch, of Chelsea.

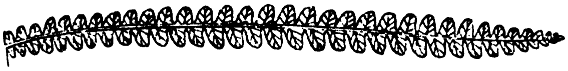
This species may be procured of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; and E. G. Henderson, of St. John's Wood.

The illustration is from fronds sent by Mr. Smith, of Kew.



GLEICHENIA SPELUNCÆ.

XLIX—VOL. 8.



Pinna of mature Frond.

GLEICHENIA SPELUNCÆ.

BROWN. HOOKER. MOORE. J. SMITH.
(*Not of* GUILLEMIN.)

PLATE XLIX. VOL. VIII.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Speluncæ*—Of a cave.

A RARE, large-growing, splendid species, of compact habit, very distinct, and having pendent but not curving branches.

A warm greenhouse Fern.

Native of Port Jackson and New South Wales.

Fronds glabrous, simple or forked, dichotomous, pinnate, and usually about a foot in length, but varying considerably in size, and in the degree of ramification. Pinnæ pinnatifid, about an inch and a quarter in length, opposite below, alternate above, the segments being semiovate, plane, and membranous, not pouched, alternate, and usually from sixteen to twenty pairs.

Colour of fronds very pale green above, and very silvery or glaucous beneath.

Veins forked and indistinct.

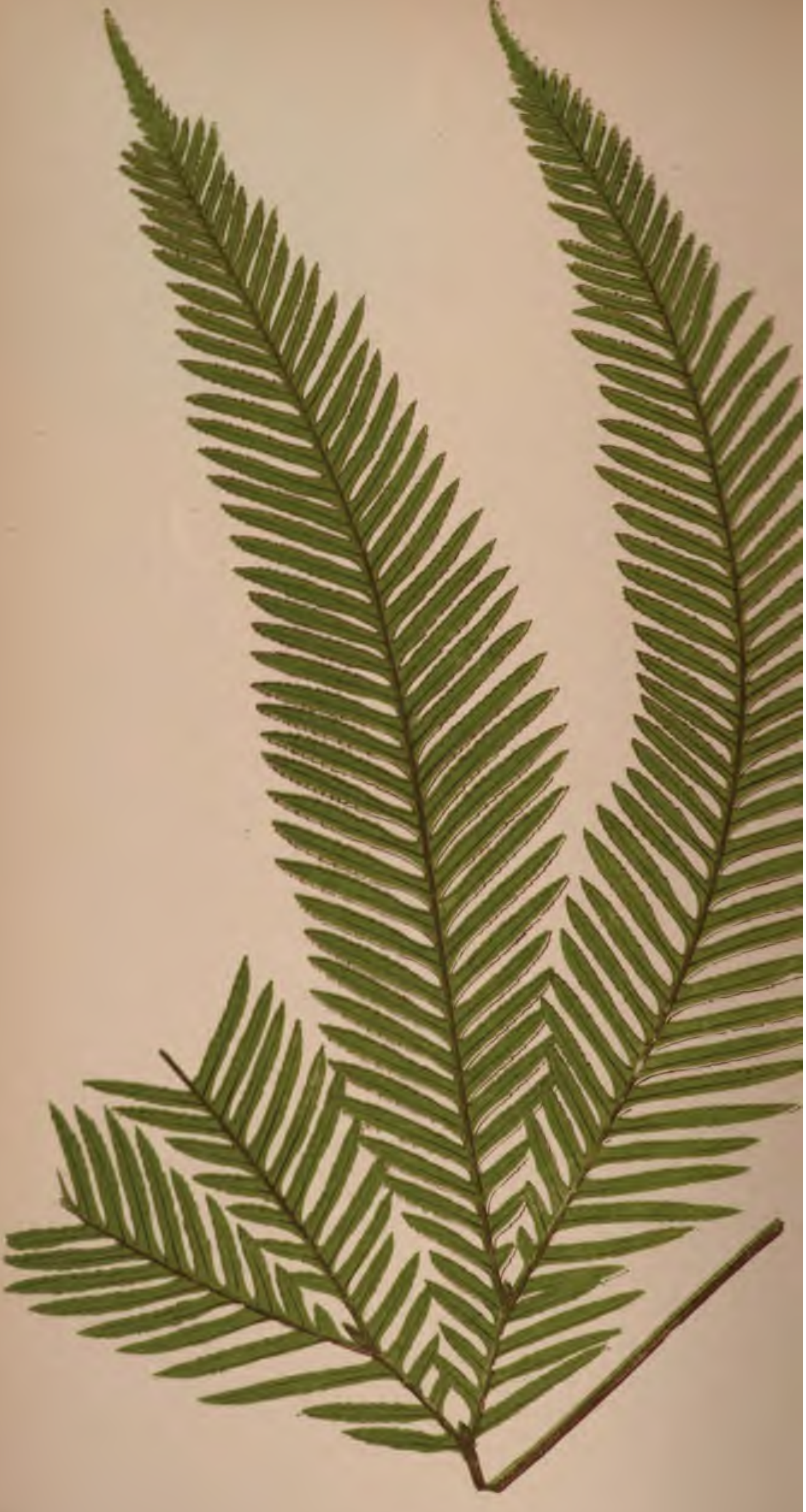
This species grows to the height of from four to five feet.

Sori terminal, situated at the apex of a veinlet, punctiform, and naked.

For fronds my thanks are due to Mr. J. Smith, Curator of the Royal Gardens, Kew; Mr. Moore, of the Glasnevin Gardens, Dublin; Messrs. Rollisson, of Tooting; and Mr. Sim, of Fo Cray.

It is in the Catalogues of Messrs. Veitch, of Chelsea; Si of Foot's Cray; and E. G. Henderson, of St. John's Wood.

The illustration is from Mr. D. Moore's fronds.



GLEICHENIA FLABELLATA.

L—VOL. 8.

Portion of fertile branch—under side.

GLEICHENIA FLABELLATA.

BROWN. HOOKER. LABILLARDIERE. MOORE. J. SMITH.

PLATE L. VOL. VIII.

Mertensia flabellata, J. SMITH.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Flabellata*—Fan-shaped

IN THE SECTION MERTENSIA OF AUTHORS.

AN exceedingly beautiful species, making a magnificent specimen. Habit erect, having an upright stipes, terminated by flabelliform fronds, consisting of several distinct series of two to four horizontal fan-shaped branches, and each again branching.

A warm greenhouse species.

Native of New Holland, Tasmania, New Caledonia, and New Zealand.

Introduced by Mr. R. Gunn, into the Royal Gardens, Kew, in 1845.

The fronds are two or three times dichotomous, proliferous, and flabelliform, the branches being lanceolate in form, ascending, and caudate at the point; pinnatifid; below pinnate, the s ments linear, acute, and serrated, mostly alternate below opposite above.

Sori medial, consisting of from one to four spore-ca punctiform, and naked.

Veins forked from a conspicuous midrib.

Stalks stout, dark, rising from stout, brown-scaled, fast-creepi stems.

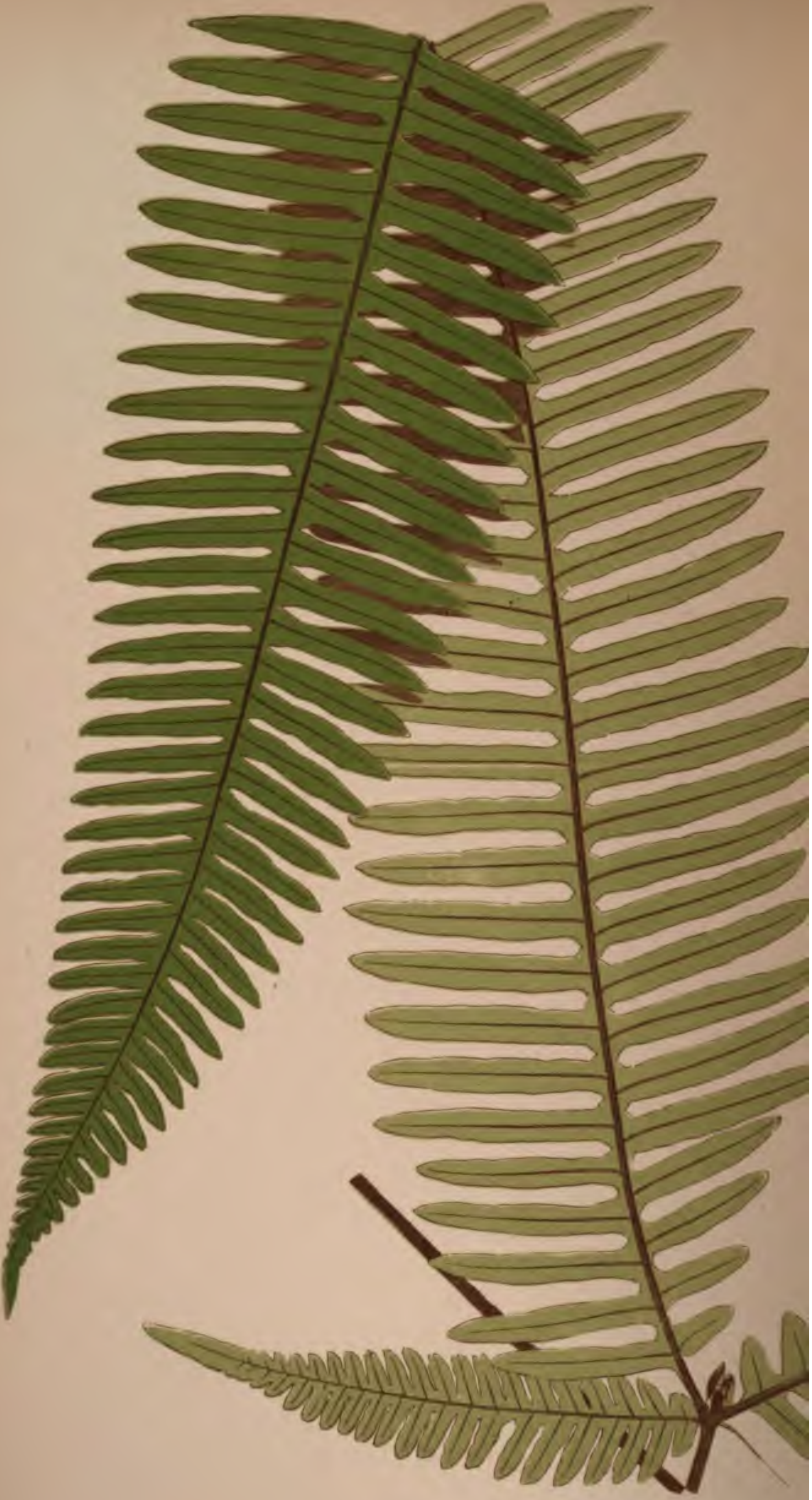
The branches tapering, pendent, slenderly and profoun cut, from six to nine inches in length, and about an inch wi

Rhizoma creeping.

Gleichenia flabellata grows to the height of from four five feet.

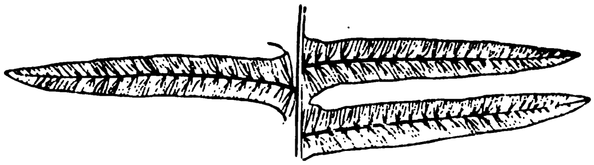
For a plant of this species my thanks are due to Mr. E. Henderson, of St. John's Wood; and for fronds to Mr. Smith, Curator of the Royal Gardens, Kew; Mr. D. Moo of the Glasnevin Gardens, near Dublin; Mr. Sim, of Foo Cray; Messrs. Rollisson, of Tooting; and Mr. Veitch, of Chels

The illustration is from fronds sent by Messrs. Veitch, Chelsea.



GLEICHENIA DICHOTOMA.

LI—VOL. 4.



Pinna of barren branch--under side.

GLEICHENIA DICHOTOMA.

Willdenow. Hooker. Schkuhr. Martius.
Langsdorff and Fischer. Sieber. Moore. J. Smith.

PLATE LI. VOL. VIII.

Mertensia discolor,	Schrader.
" *sieberi,*	Presl.
" *hookeri,*	J. Smith. Rumphius.
" *flexuosa,*	Martius.
" *pusilla,*	Martius.
" *mucronata,*	Reinwardt.
" *dichotoma,*	Willdenow. Schkuhr.
" "	Langsdorff and Fischer.
Polypodium dichotomum,	Thunberg.
Gleichenia lanigera,	Don.
" *hermanni,*	Brown. (*Not of* Hooker and Greville.)
" *rigida,*	J. Smith.
Sticherus laniger,	Presl.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Dichotoma*—Divided into two.

In the Section Mertensia of Authors.

A handsome distinct species, varying considerably in different localities; strong-growing, with erect habit.

An evergreen stove Fern.

Native of the East Indies, Malay Islands, Nepal, Sylh Tenesserim, Singapore, China, Ceylon, Malabar, Philippi Islands, Assam, Pulo Penang, Mauritius, Java, Madagasca Fernando Po, Brazil, Bahia, Islands of Tobago, and Trinida

The stipes, which is rounded and somewhat hirsute, bea ultimate branches, with a pair of pinnæ two inches and a ha wide, and from six to twelve inches long, and another pa also at the base of the di-trichotomy, not of the frond. Tl pinnæ are lanceolate-acuminate and pinnatifid, the segmen linear-obtuse or emarginate, the lower external ones usual the largest; apices rounded.

Sori consisting of from ten to twelve capsules, punctifor and naked.

Fronds glabrous, glaucous beneath.

Veins branched.

Brownish stalks, rising from fast-creeping, stout, wiry stem

Rhizoma creeping.

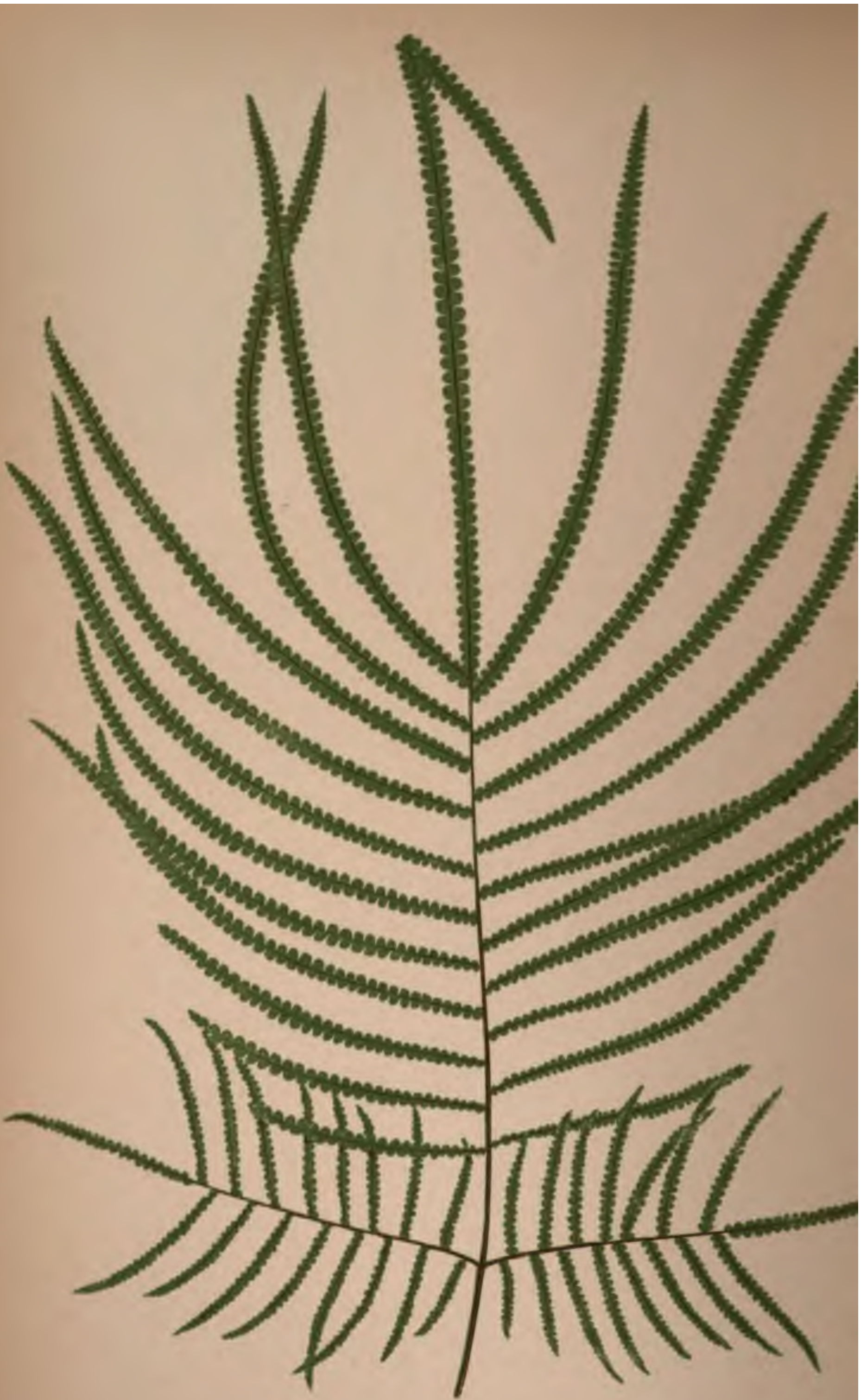
The variety known as *Mertensia mucronata* of Reinward has very broad pinnæ, and a caudate apex: it is the *Gleichen* *rigida* of J. Smith.

Gleichenia dichotoma attains a height of from five to si feet.

For a plant my thanks are due to Mr. Moore, of t Glasnevin Gardens, Dublin; and for fronds to Mr. J. Smit Curator of the Royal Gardens, Kew; Mr. Sim, of Foot Cray; and Mr. Veitch, Jun., of the Exotic Nursery, Chelse

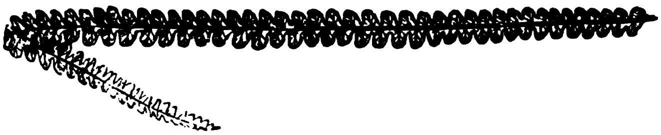
This species may be procured of Messrs. Veitch, Jun., Chelsea; Mr. R. Sim, of Foot's Cray; and Mr. E. G. Henderso of the Wellington Nursery.

The illustration is from fronds forwarded by Mr. J. Smit of Kew.



GLEICHENIA HECISTOPHYLLA.

LII-VOL. 8.



Pinna of mature Frond—under side.

GLEICHENIA HECISTOPHYLLA.

A. CUNNINGHAM. HOOKER. MOORE.

PLATE LII. VOL. VIII.

Gleichenia semivestita,	J. SMITH. (*Not of* LABILLARDIERE, HOOKER, *or* MOORE.)
" *dicarpa,*	OF SOME GARDENS. (*Not of* BROWN *or* HOOKER.)

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Hecistophylla*—Smallest-leaved.

THIS most graceful lovely Fern is of rapid growth, erect in habit, and slender.

A warm greenhouse species.

Native of New Zealand.

The fronds, which are dichotomous divaricated, (that is, growing in duplicate, the one branch receding from the other, and each again producing a similar growth of twin branches, and each branch once divided,) have branches from ten to fourteen inches long, and pectinate; the pinnæ a little distant, opposite or sub-opposite below, alternate above, about fifty pairs, very narrow, and from one to two inches and a half long, pinnatifid. Segments small, nearly circular in form, alternate, approximate, about thirty to forty-five pairs, and saccate; the outline of the pinnæ resembling that of a string of small beads of equal size, and not larger than the size c a small pin's head, closely strung together.

Veins immersed and indistinct.

The branches and rachis densely covered with a ferruginou pubescence.

The sori, which are situated at the apex of a veinlet, (ter minal,) consist of two capsules or spore-cases, sunk in th hollow of the segments, punctiform and naked.

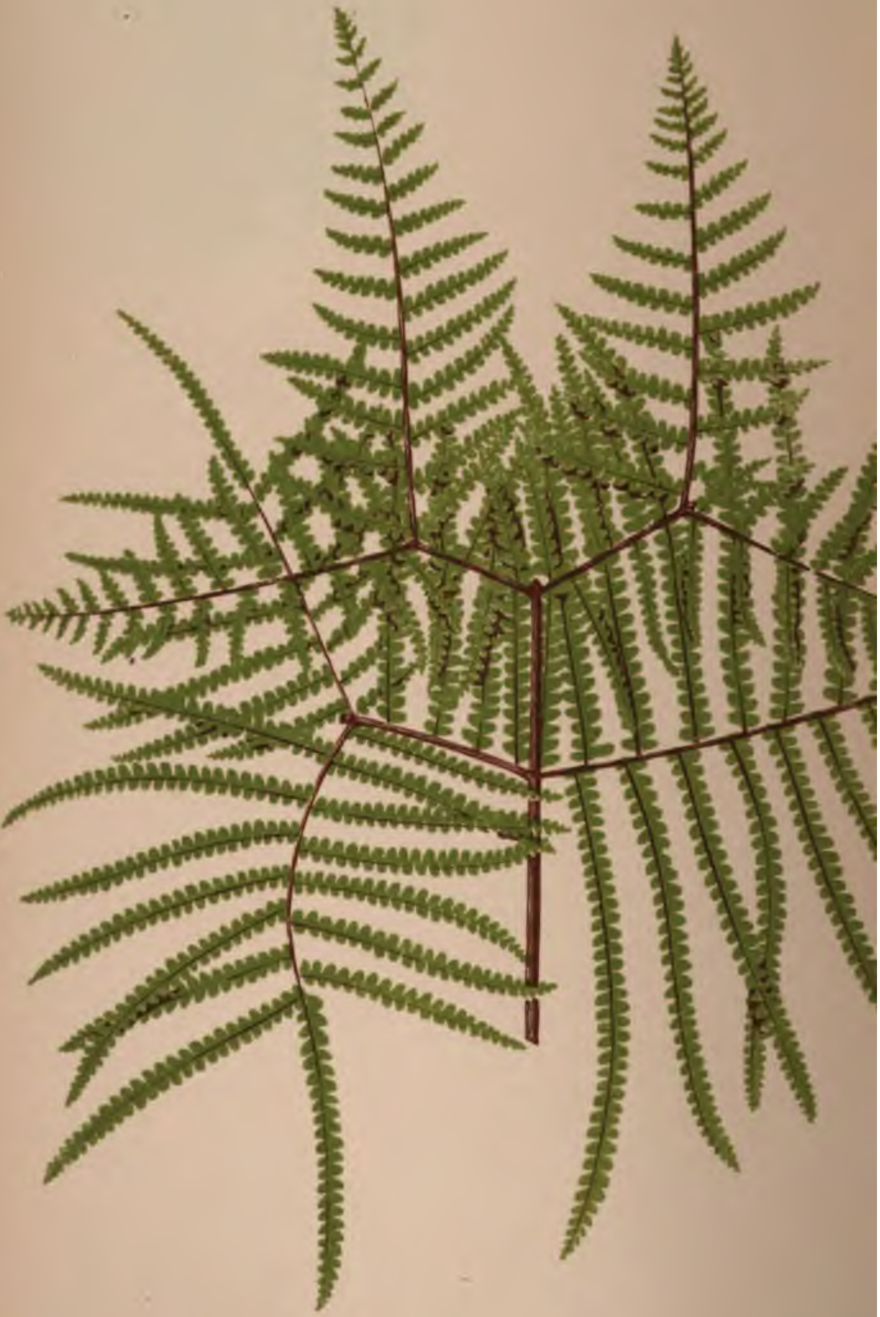
The stalks dark, rising abundantly from the many wir fast-creeping stems, and having at intervals weeping, curving branched, smooth, shining, deep green fronds.

Gleichenia hecistophylla grows to the height of from two t three feet.

For fronds my thanks are due to Mr. R. Sim, of Foot' Cray.

It may be procured of Messrs. Sim, of Foot's Cray, an Veitch, of Chelsea.

The illustration is from Mr. Sim's frond.



GLEICHENIA RUPESTRIS,

LIII—VOL. 8.

Pinna of mature Frond—under side.

GLEICHENIA RUPESTRIS.

BROWN. HOOKER. MOORE.

PLATE LIII. VOL. VIII.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Rupestris*—Rock.

AN exceedingly rare and very handsome species, being glaucous on the under side of the branches.

A warm greenhouse Fern.

Native of New South Wales and Port Jackson.

Fronds glabrous, forked or dichotomous, the branches pinnate; the pinnæ wide, being pinnatifid, and having rounded coriaceous segments, with thickened recurved margins.

Colour pale green above, glaucous beneath.

Veins branched, immersed, but plainly visible.

Stems somewhat plum-coloured.

Sori terminal, situated at the apex of a veinlet, composed of three or four exserted capsules or spore-cases, punctiform, and naked.

Gleichenia rupestris attains a height of from four to six feet.

For fronds my thanks are due to Mr. R. Sim, of Foot's Cray.

It seems only to be in Mr. Sim's Catalogue.

The illustration is from fronds sent by Mr. R. Sim.

Pinna of mature Frond – under side.

GLEICHENIA SEMIVESTITA.

LABILLARDIERE. HOOKER. MOORE.

PLATE LIV. VOL. VIII.

Gleichenia—Named in honour of Baron P. F. Von Gleichen, a German botanist. *Semivestita*—Half-clothed.

A HANDSOME rare species, with a close habit, and growing very erect; branches spreading. Not unlike *Gleichenia microphylla.*

A warm greenhouse species.

Native of New Caledonia and Malacca.

The fronds are dichotomous divaricated, the branches being pectinate, the pinnæ pinnatifid, and the segments small, orbicular-ovate, and slightly concave. The pinnæ tapering regularly to their points; the lobes not pouched beneath.

Veins pinnate.

Rachis having a few stellated hairs.

Branches ferruginous, with a dense pubescence.

Veins indistinct.

Sori terminal, of three or four exserted deciduous capsules or spore-cases, situated at the apex of a veinlet, punctiform, and naked.

This species grows to the height of from two to four feet; the branches being of a very shining deep green colour.

For fronds my thanks are due to Mr. R. Sim, of Foot's Cray.

It may be procured of Mr. Sim.

The illustration is from Mr. Sim's fronds.

BIBLIOTHECA BODLEIANA

CYATHEÆ. J. Smith.

With circular intramarginal sori, the sporangia usually sessile, and situated on an elevated receptacle, and having a special indusium.

Comprising in Mr. Smith's "Catalogue of Ferns," *Cyathea, Hemitelia, Alsophila,* and *Lophosoria,* the latter genus being included in *Alsophila* by Sir W. J. Hooker.

GENUS I.

CYATHEA.

Habit erect and arborescent, the trunk or caudex reaching in some species a height of from forty to fifty feet, the fronds being from five to fifteen feet in length.

Veins forked; venules free. Sori globose, axillary at the forking of a vein, or medial. Receptacle elevated and columnar.

Indusium globose, membranaceous, complete cup-shaped, and and first covering the whole sorus.

Inhabiting warm countries.

Sir W. J. Hooker, in his "Species Filicum," describes—

Sinuata, *Hooker and Greville,* Ceylon.
Brunonis, *Wallich,* Penang.
Mexicana, *Schlechtendal,* Mexico
Arborea, *Smith,* Jamaica.
Serra, *Willdenow,* Caraccas.
Imrayana, *Hooker,* Dominica.
Muricata, *Willdenow,* Martinique
Schanschin, *Martius,* Brazil.
Gardneri, *Hooker,* Brazil.
Beyrichiana, *Presl,* Brazil.
Canaliculata, *Willdenow,* Isle of France.
Excelsa, *Swartz,* Bourbon.
Walkeræ, *Hooker,* Ceylon.
Aspera, *Swartz,* Jamaica.
Aculeata, *Willdenow,* Hispaniola
Cuspidata, *Kunze,* Peru.
Divergens, *Kunze,* Peru.
Equestris, *Kunze,* Peru.

Vestita, ***Martius,*** Brazil.
Hirtula, ***Martius,*** Brazil.
Grevilleana, ***Martius,*** Jamaica.
Dregei, ***Kunze,*** S. Africa.
Burkei, ***Hooker,*** S. Africa.
Spinulosa, ***Wallich,*** Nepal.
Glauca, ***Bory,*** Bourbon.
Crenulata, ***Blume,*** Java.
Javanica, ***Blume,*** Java.
? Celebica, ***Blume,*** Celebes.
Integra, ***J. Smith,*** Amboyna.
Medullaris, *Swartz,* N. Zealand.
Dealbata, *Swartz,* N. Zealand.

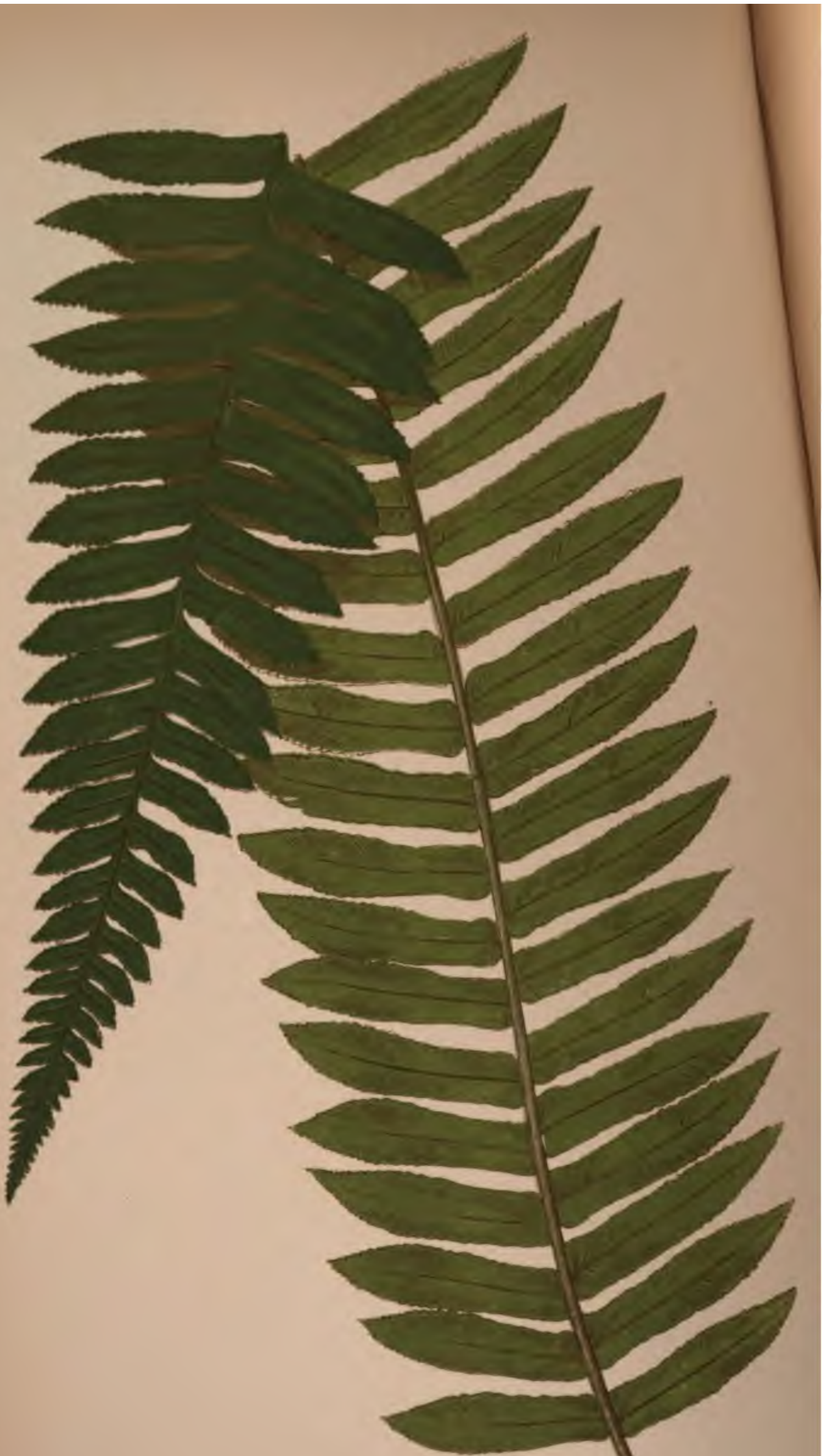
DOUBTFUL SPECIES.

? Rumphii, ***Desvaux.***
? Lævigata, ***Willdenow,*** Ma gascar.
? Marattioides, ***Willdenow,*** M agascar.
Delgadii, ***Pohl,*** Brazil.
Sternbergii, ***Pohl,*** Brazil.
Tussacii, ***Desvaux,*** Jamaica.
Polypodioides, ***Swartz,*** Bra
Woodwardioides, ***Kaulfuss.***
Sellowiana, ***Presl,*** Brazil.

Mr. J. Smith, in his Catalogue of the Ferns cultivated in Royal Gardens, Kew, mentions—

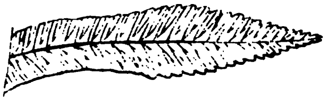
Canaliculata, ***Willdenow.***
Excelsa, *Swartz.*
Arborea, *Smith.*
Serra, *Willdenow.*
Medullaris, *Swartz.*
Aculeata, *Willdenow.*
Dealbata, *Swartz.*

There is so much difference of opinion amongst Botan regarding *Alsophila, Cyathea,* and *Hemitelia,* that diffe Authors place them in a different genus; thus the *Hemit hostmanni* of Hooker is *Alsophila hostmanni* of Smith, the *Hemitelia horrida* of R. Brown is the *Cyathea horrida* Smith. Mr. Moore places many of them in *Alsophila* and *phlicosmia;* perhaps some day they will all be united in genus.



CYATHEA CANALICULATA.—PINNA.

LV—VOL 8.



Pinnule of mature Frond—under side.

CYATHEA CANALICULATA.

WILLDENOW. HOOKER. J. SMITH. SPRENGEL.

PLATE LV. VOL. VIII.

Cyathea borbonica,	POIRET.
" *mascarena,*	SWARTZ.
" *melanocaula,*	DESVAUX.

Cyathea—A little cup, (the form of the indusium.)
Canaliculata—Channeled.

THIS magnificent rare species is very distinct, and of large size, the pinnules being usually from eight to ten inches long, and two inches and a half wide, and in the variety ***Latifolia*** much larger.

A warm greenhouse evergreen species.

Native of Madagascar, Mauritius, and Isles of France and Bourbon.

Fronds bipinnate, coriaceous, the pinnules glabrous, of large size, and broadly lanceolate in form; profoundly pinnatifid, the ultimate pinnules linear-oblong and serrated.

Veins twice or three times forked.

Sori situated at some distance from the costa, but occupying most of the segment.

Indusium membranaceous, but durable.

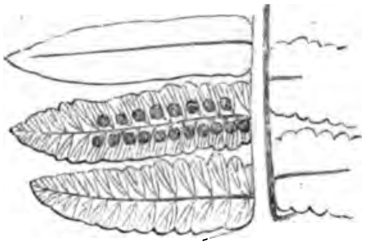
The caudex is shorter, and the frond broader and thicker than *Cyathea excelsa.*

There are several varieties; one having a very dark col rachis; and another, known as var. *Latifolia*, having its pir twelve inches in length, and three inches in breadth, and pinnated almost to the apex.

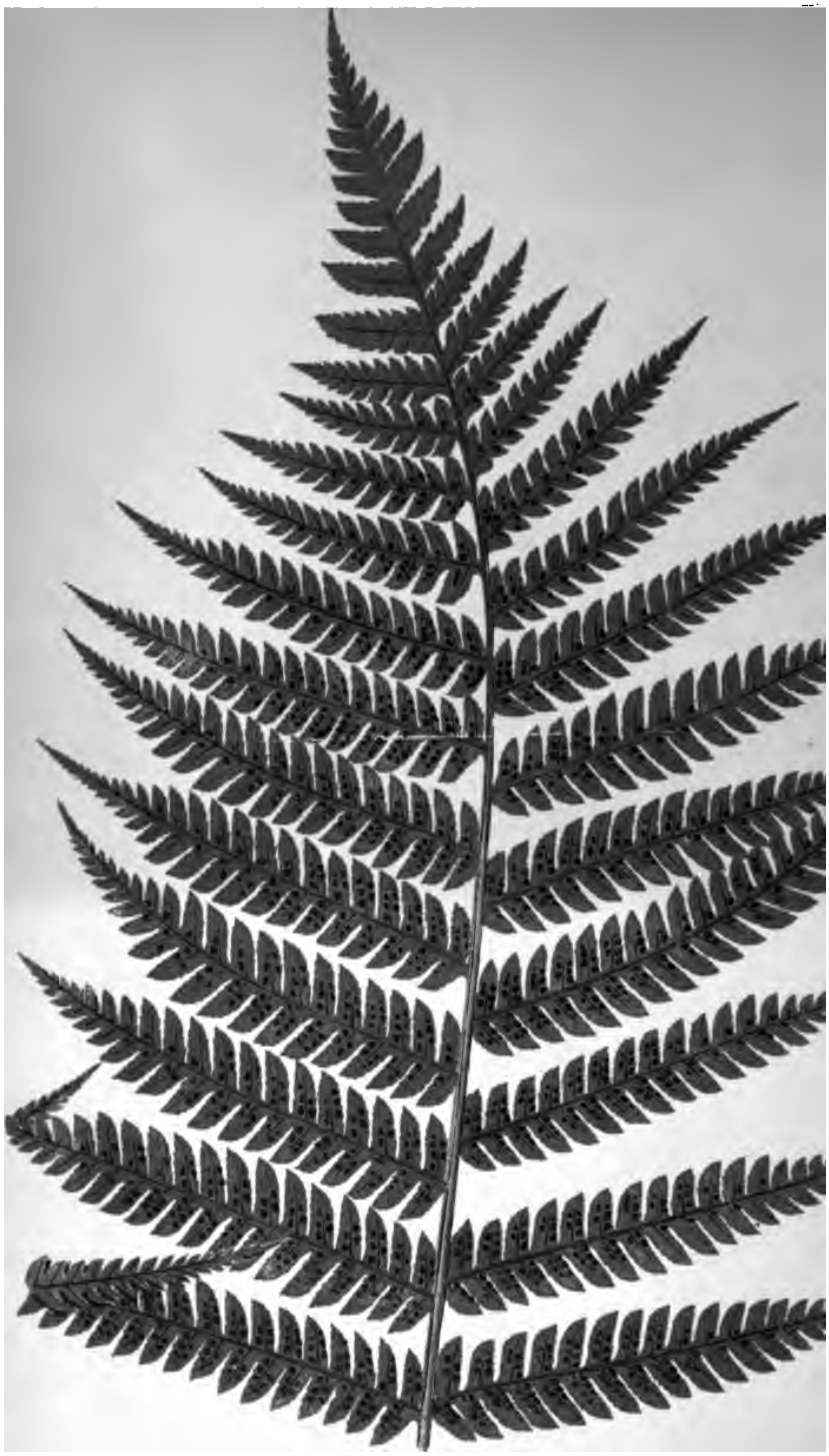
For fronds my thanks are due to Mr. James Veitch, Ju the Exotic Nursery, Chelsea.

It may be procured of Messrs. Veitch, of Chelsea.

The illustration is from Mr. Veitch's frond.

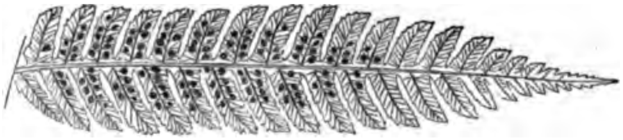


Variety latifolia.



CYATHEA DEALBATA.—PORTION OF PINNA.

LXI—VOL. 8.



Pinnule of fertile Frond--under side.

CYATHEA EXCELSA.

SWARTZ. HOOKER. J. SMITH.

PLATE LVI. VOL. VIII.

Cyathea arborea, BORY, (*Not of* SMITH, SWARTZ, *nor* HOOKER.)

Cyathea—A little cup, (the form of the indusium.) *Excelsa*—Tall.

ANOTHER rare species, not in ordinary collections.

An evergreen stove Fern.

Native of Mauritius and Bourbon.

The fronds, which are bipinnate, are glabrous, and somewhat membranaceous; pinnules lanceolate, and much drawn out to a point; pinnatifid, with segments oblong and serrated.

Veins simply forked below the middle.

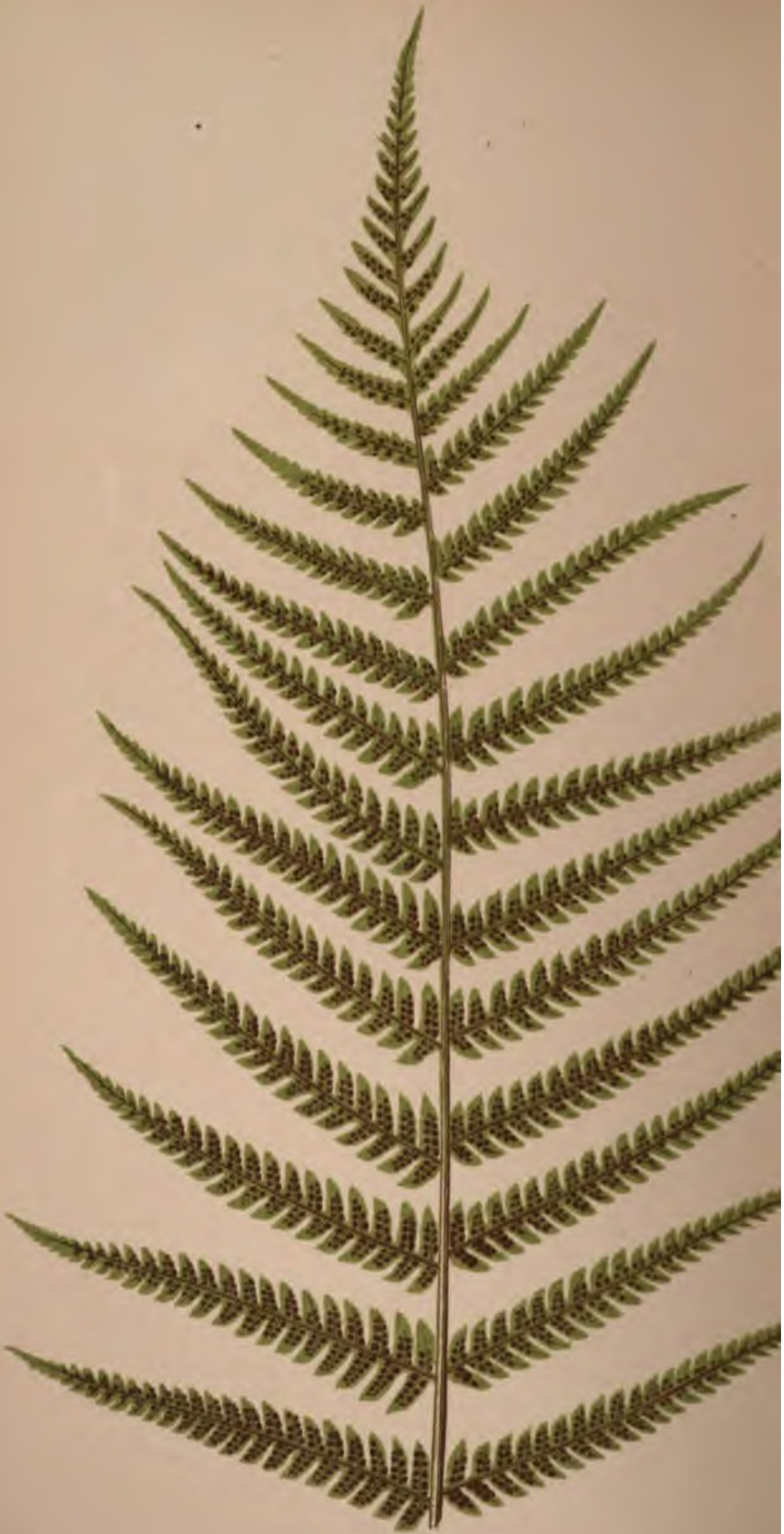
Stipes and rachis pale.

Sori situated near the costa. Indusium membranaceous, shining, and very fragile.

I am under an obligation to Mr. Joseph Henderson, of Wentworth, for pinnæ of this species.

It does not appear to be included in any of the Nurserymen's Catalogues.

The illustration is from a pinna sent by Mr. Joseph Henderson.



CYATHEA MEDULLARIS.—PORTION OF PINNA.

LVII—VOL. 8.

Pinnule of fertile Frond—under side.

CYATHEA MEDULLARIS.

SWARTZ. SCHKUHR. J. SMITH. HOOKER.

PLATE LVII. VOL. VIII.

Polypodium medullare,	FORSTER.
" *affine,*	FORSTER.
Sphæropteris medullaris,	BERNHARDI.
Cyathea affinis,	SWARTZ, (*Not of* SCHKUHR.)
" *extensa,*	SWARTZ. SCHKUHR.
Alsophila "	DESVAUX. HOOKER & ARNOTT.
Cyathea mertensiana,	BONGARD.

Cyathea—A little cup, (the form of the indusium.) *Medullaris*—Pithy.

A MAGNIFICENT rare Fern, very distinct. In New Zealand it forms a common article of food for the natives.

An evergreen warm greenhouse species.

Native of New Zealand, Norfolk Island, Pacific Islands, New Guinea, and Otaheite.

The fronds are bi-tripinnate, glabrous, and coriaceous. The pinnules broadly-lanceolate, acuminate, and attenuated, mostly sub-opposite or alternate; profoundly pinnatifid, sessile, with few small scales beneath. Segments linear-oblong and serrated, those next the rachis pinnatifid.

Sori very copious, occupying a lobe, and nearly as broad as the space between the costa and the margin; orange-yellow in colour. Indusium circular, shining, and membranceous.

Stipes and rachis muricated with glandular hard tı glossy, and resembling a dried resinous exudation.

Length of frond from six to ten feet; colour viv green.

There are several varieties:—

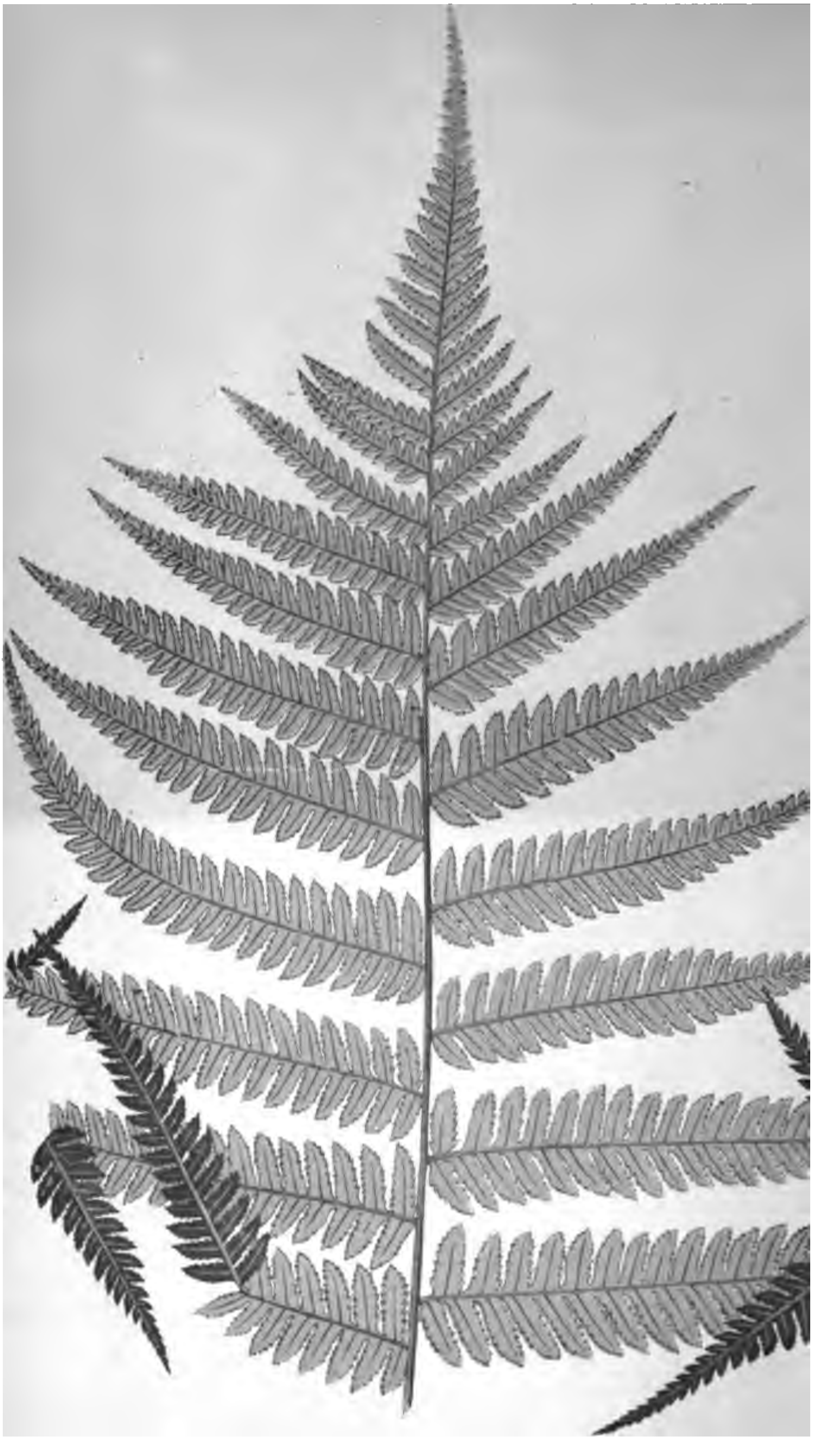
Variety *tripinnata* having entire pinnules, and again p except at the apex. It was found in the Coral Isla Captain Beechey, and at Bonin, by Dr. Mertens.

Variety *integra* having its segments nearly entire. Fc Colenso in New Zealand.

For fronds I am indebted to Mr. James Veitch, Jun. Exotic Nursery, Chelsea.

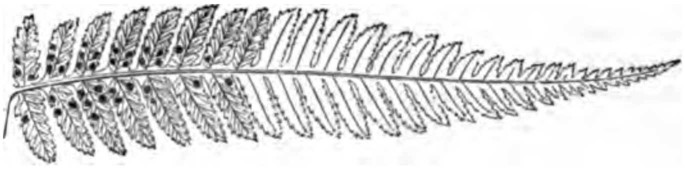
It may be procured of Messrs. Veitch, of Chelsea, ar of Foot's Cray.

The illustration is from a frond sent by Mr. James



LASTREA [illegible]ALESCENS.—[illegible]ATION OF PINNA.

LVIII.—VOL. 2.



Pinnule of fertile Frond—under side.

CYATHEA DEALBATA.

SWARTZ. RICHARD. J. SMITH. MOORE AND HOULSTON.

PLATE LVIII. VOL. VIII.

Cyathia—A little cup, (the form of the indusium.) *Dealbata*—Whitened.

PERHAPS the present species is the handsomest Fern as yet introduced into Great Britain. Rising on a trunk to the height of from ten to fifteen feet, it is crowned above with a splendid tuft of fronds, which are pure white beneath from the copious glaucous farina. We have recently mentioned the King of Ferns, and *Cyathea dealbata* may aptly be called 'the Silver-King.'

Mr. Edgerly mentions that, like *C. medullaris*, this Fern is an article of food with the natives of New Zealand.

C. dealbata is easily cultivated, and should be grown in every collection where room can be given it to expand its beautiful silvery-powdered fronds.

The sori is another feature of beauty, being reddish brown, and dotted amongst the white powder of the under surface, it is a conspicuous object.

It is only to be met with in a few of our best collections, and there it is universally admired, for it is a noble species, graceful in habit, and remarkable in foliage.

An evergreen warm greenhouse Fern.

Native of the northern and middle Islands of New Zea

The fronds, which are bipinnate, and sometimes again pi at the base, are glabrous, and somewhat lanceolate in pinnules narrow, lanceolate, acuminate, and profoundly pinna segments falcate and serrated.

Stipes scaly and muricate, and more especially so at the rachis covered with ferruginous deciduous down.

Fronds terminal, adherent to an erect caudex or trunk.

Veins pinnate; venules direct and free.

Sori copious, placed midway between the costa and margin; involucres globose, membranaceous, and rising fr raised receptacle.

Length of frond from five to seven feet; colour a bluish above, and very glaucous beneath.

Humboldt, in his "Views of Nature," mentions that " Dieffenbach saw in the most northern of the three islan New Zealand, trunks of *Cyathea dealbata* rising to the h of forty-two feet and a half."

For fronds my thanks are due to Mr. Joseph Henderso Wentworth; Mr. J. Veitch, Jun., of Chelsea; Mr. Smith, o Royal Gardens, Kew; Mr. Moore, of the Glasnevin Gar Dublin; and Mr. Sim, of Foot's Cray.

It may be procured of Messrs. E. G. Henderson, of St. J Wood; Messrs. Veitch, of the Exotic Nursery, Chelsea; of Foot's Cray; and Stansfield, of Todmorden.

The illustration is from Mr. Joseph Henderson's fronds.

GENUS II.

HEMITELIA. Brown.

Habit erect and arborescent. Fronds large—four to eight feet long. Veins simply or pinnately forked; venules free, the lowest most angularly anastomosing, and forming a costal arch. Sori solitary, globose, and medial, or axillary. Receptacle elevated and globose. Indusium semicircular and concave. *Cyathea* is known by the complete cup-shaped involucres; whilst *Hemitelia* is recognised by its half cup-shaped involucres, and its arcuately-anastomosed basal venules.

All natives of the Tropics.

Sir W. J. Hooker, in his "Species Filicum," describes—

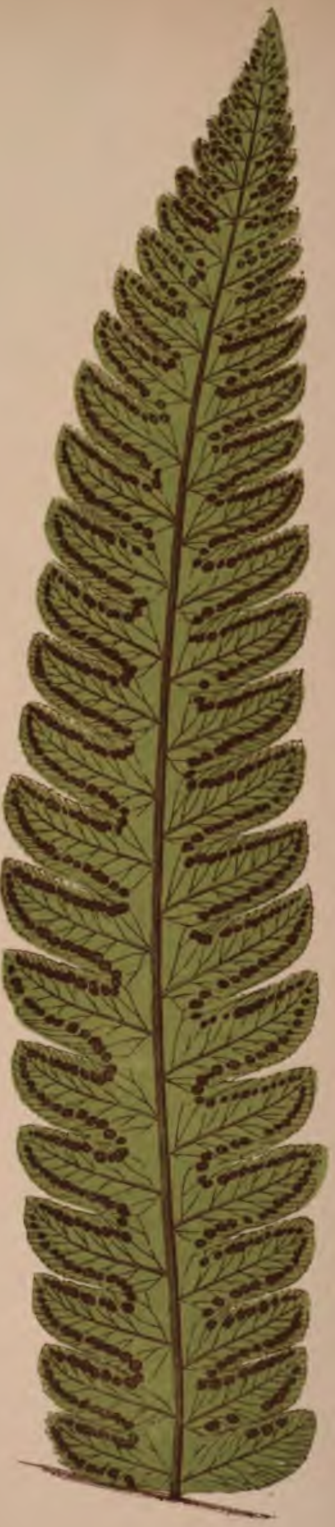
Speciosa, *Kaulfuss*, Caraccas.
? Alternans, *Hooker*, Penang.
Obtusa, *Kaulfuss*, West Indies.
Grandifolia, *Sprengel*, Martinique.
? Parkeri, *Hooker*, Guiana.
Imrayana, *Hooker*, Dominica.
Horrida, *Brown*, St. Domingo.
Petiolata, *Hooker*, Panama.
Hostmanni, *Hooker*, Guiana.
Multiflora, *Brown*, Jamaica.
Guianenis, *Hooker*, Guiana.

DOUBTFUL SPECIES.

Munita, *Presl.*
Serrata, *J. Smith.*
Stigmosa, *Desvaux*, Tropical America.
Cyathoides, *Desvaux*, Guiana.
Monilifera, *J. Smith.*
Cruciata, *Desvaux*, Tropical America.
Cordata, *Desvaux*, Madagascar.
Laciniata, *Sprengel*, N. Hebrides

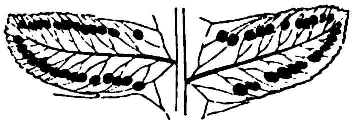
Mr. J. Smith, in his "Catalogue of the Ferns of Kew," enumerates—

Speciosa, *Kaulfuss.*
Grandifolia, *Sprengel.*
Horrida, *R. Brown.*
Hostmanni, *J. Smith*, (under genus *Alsophila.)*



HEMITELIA GRANDIFOLIA.—PINNA.

LIX.—Vol. 2.



Portion of mature Frond – under side.

HEMITELIA GRANDIFOLIA.

SPRENGEL. HOOKER. J. SMITH. MOORE AND HOULSTON.

PLATE LIX. VOL. VIII.

Cyathea grandifolia,	WILLDENOW. PLUMIER.
" *horrida,*	SIEBER, (*not of* PRESL & SMITH.)
Cnemidaria kohautiana,	PRESL.

Hemitelia—Half-perfect, in reference to the indusium resembling a half-cup.
Grandifolia—Large-leaved.

THIS is a very beautiful Fern, but rare in collections.

An evergreen stove species.

Native of Trinidad, Jamaica, Martinique, and St. Vincent.

Caudex erect, growing to the height of four or five feet.

Fronds pinnate, glabrous, and ovate-lanceolate in form; pinnæ large, (twelve inches in length,) lanceolate-acuminate, sessile, and pinnatifid for above two thirds of its length; segments obtuse and sub-falcate, apex serrulated.

Fronds terminal.

Veins once or twice forked, the basal ones angularly-anastomosing.

Stipes aculeated, having a scale on each prickle.

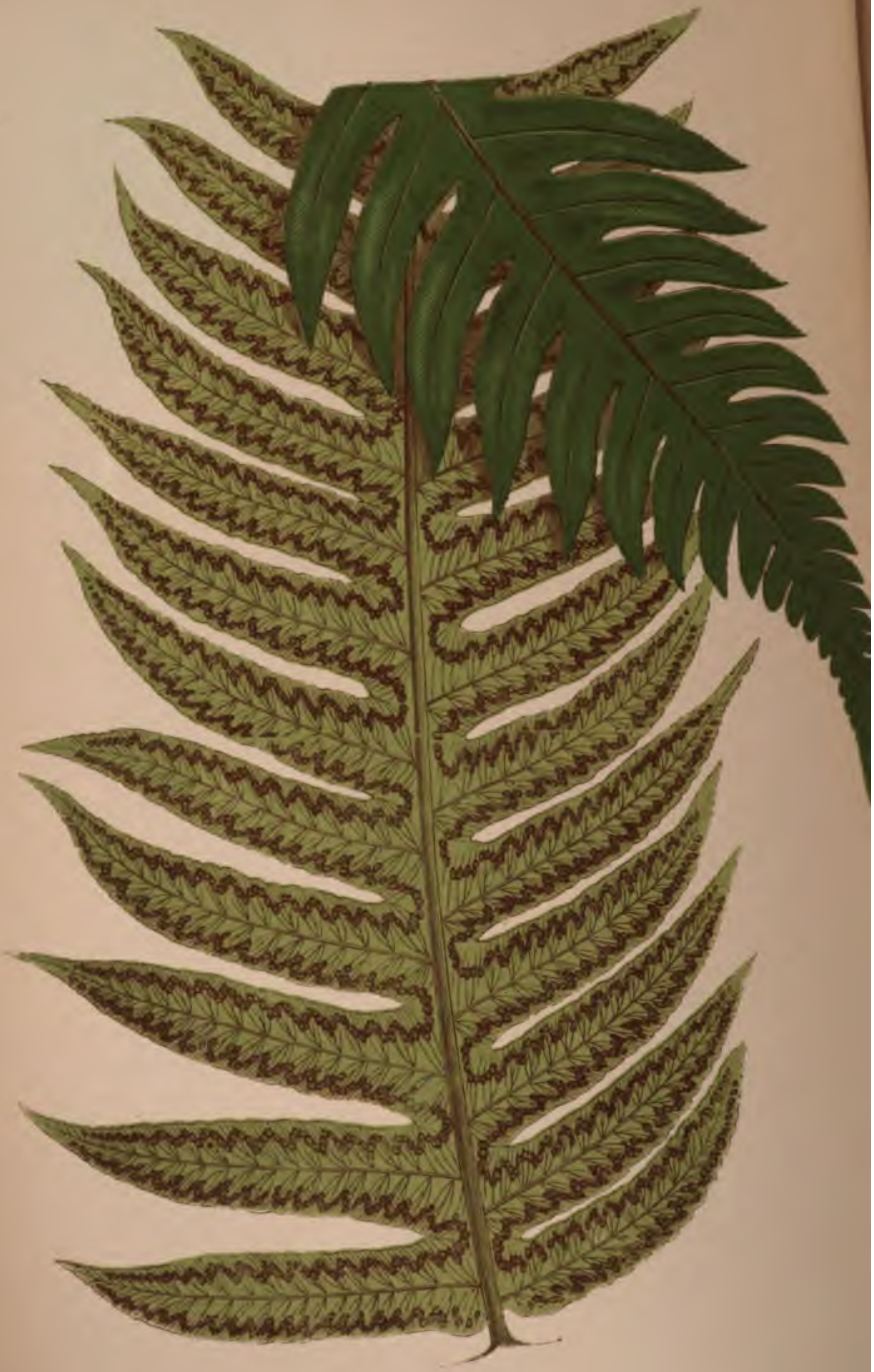
Sori a little within the margin, uniserial, continued around every sinuosity of the pinnæ, and having a solitary sorus on each venule.

Fronds from seven to eight feet in length; colour shining green.

For fronds I am indebted to Mr. Joseph Hender Wentworth House.

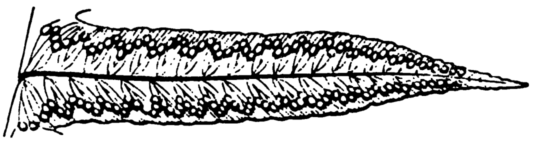
It does not appear in any of the Nurserymen's Catal

The illustration is from Mr. J. Henderson's frond.



HEMITELIA HORRIDA.—PINNA.

LX—VOL. II.



Pinnule of fertile Frond—under side.

HEMITELIA HORRIDA.

R. Brown. Hooker. J. Smith. Moore and Houlston.

PLATE LX. VOL. VIII.

Polypodium horridum,	Linnæus. Plumier.
Cyathea horrida,	J. Smith. Presl, (*not of* Sieber.)
" *commutata,*	Sprengel, (*not of* Plumier.)

Hemitelia—Half-perfect, in reference to the indusium resembling a half-cup.
Horrida—Horrid.

A noble species, of large size, and only to be seen in good collections.

An evergreen stove Fern.

Native of Jamaica, Trinidad, St. Domingo, Martinique, and St. Vincent.

Introduced into the Royal Gardens, Kew, in 1843, having been received from Mr. Purdie.

The fronds, which are glabrous, are bipinnate, broadly lanceolate in form, and are covered beneath at first, as well as the rachis, with cobwebby tomentum. Pinnæ sessile, profoundly pinnatifid, almost to the base; segments approximate, lanceolate, acuminate, and somewhat falcate; apex crenate-serrate.

Rachis and stipes aculeate, having a scale on each prickle.

Fronds terminal, and adherent to an erect arborescent caudex.

Veins pinnate, lower veinlets anastomosing, and forming an angular costal arch, with others between the base and midrib of the segments.

Sori continuous round every sinuosity of the pinnæ, forming a double line.

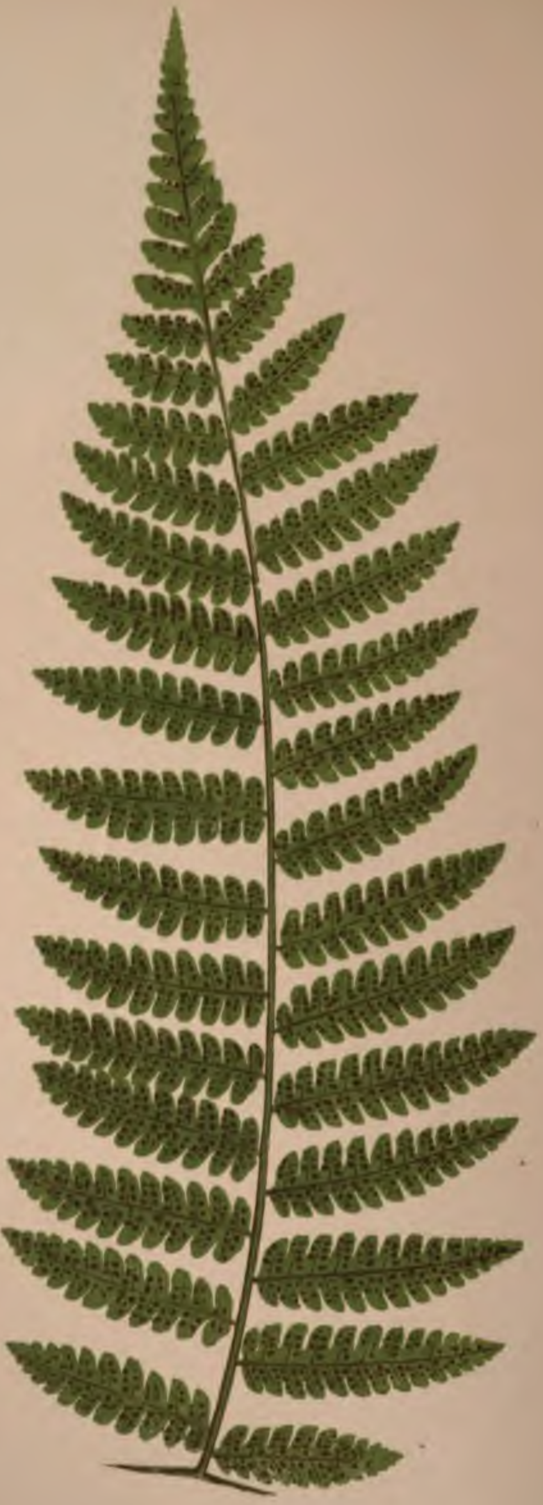
Pinnules of great size, from twelve to eighteen inches in length, and sessile.

Length of frond from five to ten feet; colour bright shining green.

For fronds I am indebted to Mr. Joseph Henderson, of Wentworth; Mr. Norman, of Hull; and Mr. Smith, of the Royal Gardens, Kew.

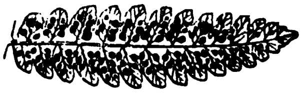
It may be procured of Messrs. Rollisson, of Tooting; Veitch, of Chelsea; Sim, of Foot's Cray; and A. Henderson, of Pine-apple Place Nursery.

The illustration is from Mr. Joseph Henderson's frond.



HEMITELIA HOSTMANNI.—PINNA.

LXV. Vol. 8.



Pinnule of fertile Frond—under side.

HEMITELIA HOSTMANNI.

HOOKER. FEE. KUNZE. PRESL.

PLATE LXI. VOL. VIII.

Alsophila hostmanni,	J. SMITH.
" *? leprieuriana,*	KUNZE.
Amphicosmia hostmanni,	MOORE.
Hemitelia surinamensis,	MIQUEL.
Cyathea aspera,	KLOTZSCH.

Hemitelia—Half-perfect, in reference to the indusium resembling a half-cup.
Hostmanni—Named after Dr. Hostmann.

AN ornamental and very rare Fern, only found in our best collections.

An evergreen stove species.

Native of Dutch Guiana, where it was found by Dr. Hostmann.

Introduced into the Royal Gardens, Kew, in 1845, by Mr. H. Cadogan Rothery.

Fronds bipinnate, glabrous, and lanceolate, pinnæ remote, the largest a foot in length; sessile, broad lanceolate, pinnules pinnatifid, oblong, sessile, and obtuse, the base being wedge-shaped; segments or lobes entire, obtuse, sub-falcate, with a rounded apex, the upper ones decurrent at the base, forming a winged rachis.

Veins simple; venules free.

Sori medial and distant, only the lowest pair of veinlets bearing a solitary sorus.

Stipes and main rachis scaly, the base of the stipes b
scaly, and aculeated; stipes rich mahogany brown in co
about eighteen to twenty inches in length, one side bein
covered with long dark brown scales, and on the other
with short aculei.

Length of frond from sixty to eighty-four inches; col
green.

For fronds my obligations are due to Mr. Joseph H
of Wentworth.

It does not appear in any of the Nurserymen's Cat

The illustration is from Mr. J. Henderson's frond.

GENUS III.

ALSOPHILA. R. Brown.

Habit erect and arborescent.

Fronds bi-tripinnatifid, growing to the length of from five to fifteen feet. Veins simple or forked, and free. Sori globose, axillare, or medial. Receptacle elevated, often villous. Indusium frequently obsolete, or perhaps none.

Sir W. J. Hooker, in his "Species Filicum," enumerates the following:—

Blechnoides, *Hooker*, Guiana.
Tænitis, *Hooker*, Brazil.
Elegans, *Martius*, Brazil.
Capensis, *J. Smith*, Cape of Good Hope.
Latebrosa, *Wallich*, Penang.
Miersii, *Hooker*, Organ Mountains.
Procera, *Kaulfuss*, Brazil.
Hookeriana, *Klotzsch*, Brazil.
Armigera, *Kunze*, Ventanilla de Cassapi.
Aspera, *Brown*, Martinique.
Armata, *Presl*, Jamaica.
Gardneri, *Hooker*, Brazil.
Ferox, *Presl*, Brazil.
Leucolepis, *Martius*, Brazil.
Phalerata, *Martius*, Brazil.
Infesta, *Kunze*, Peru.
Compta, *Martius*, Brazil.
Elongata, *Hooker*, Columbia.
Pœppigii, *Hooker*, Peru.
Villosa, *Presl*, Caraccas.
Plagiopteris, *Martius*, Brazil.
Paleolata, *Martius*, Brazil.
Hirsuta, *Kaulfuss*, Brazil.
Rigidula, *Martius*, Brazil.
Nigra, *Martius*, Brazil.
Monticola, *Martius*, Brazil.
Sprengeliana, *Martius*, San Domingo.
Atrovirens, *Presl*, Brazil.
Radens, *Kaulfuss*, Brazil.
Setosa, *Kaulfuss*, Brazil.
Pycnocarpa, *Kunze*, Peru.
Subaculeata, *Splitgerber*, Surinam
Pilosa, *Martius*, Mexico.
Mexicana, *Martius*, Mexico.
Pruinata, *Kaulfuss*, Jamaica.
Excelsa, *Brown*, Norfolk Island
Lunulata, *Brown*, South Sea Islands.
Australis, *Brown*, N. S. Wales.
Decurrens, *Hooker*, South Sea Islands.
Glabra, *Blume*, Java.

Squamulata, *Blume*, Java.
Contaminans, *Wallich*, Penang.
Caudata, *J. Smith*, Manilla.
Brunoniana, *Wallich*, Sylhet.
Gigantea, *Wallich*, Sylhet.
Comosa, *Wallich*, Singapore.
Crinita, *Hooker*, Ceylon.
Lepifera, *J. Smith*, South Camarines.
Tomentosa, *Blume*, Java.
Lurida, *Blume*, Java.
Hænkei, *Presl*, Marianne Islands

DOUBTFUL SPECIES.

Dombeyi, *Descaux*, Peru.
Millefolium, *Descaux*, Hispaniola
Schiedeana, *Presl*, Mexico.
Martinicensis, *Sprengel*, Martinique.
Aculeata, *J. Smith*, Trinidad.

Speciosa, *Presl*, South
Strigosa, *J. Smith*, Britis
(perhaps Hemitelia hos
Serrata, *J. Smith*, Jamai
sidered a var. of A. a
Tumacensis, *J. Smith*,
elongata of *Hooker*.)
Lævis, *J. Smith*, (is H
guianensis, *Hooker*.)
Tenera, *J. Smith*, St.
(is a Cyathea.)
Brevis, *J. Smith*, (is a
dium, according to Mr.
Manilensis, *Presl*, East
Wallichiana, *Presl*, Syl
Glaucescens, *Wallich*,
Grevilleana, *Wallich*, S
Telfairiana, *Wallich*, M
Weigeltii, *Roemer*.

Alsophila perinniana, *Sprengel*, is Woodsia perinni
Hooker and Greville.

Mr. Smith, in his "Catalogue of the Ferns cultivated at
enumerates—

Capensis, *J. Smith.*
Hostmanni, *J. Smith*, (Hemitelia hostmanni, of *Hooker*.)
Aspera, *R. Brown.*
Australis, *R. Brown.*
Radens, *Kaulfuss.*

Mr. Moore, in his "Index Filicum," gives under *Alsop*

Aculeata, *J. Smith.*
Arbuscula, *Presl.*
Armata, *Presl.*
Adspersa, *Kaulfuss.*
Armigera, *Kunze.*
Aspera, *R. Brown.*
Atrovirens, *Presl.*
Aurea, *Fee.*
Australis, *R. Brown.*
Axillaris, *Moore.*
Blanchetiana, *Presl.*
Brevis, *J. Smith.*
Brunoniana, *Wallich.*
Caudata, *J. Smith.*
Colensoi, *Hooker.*
Comosa, *Wallich.*
Cordata, *Klotzsch.*
Crenata, *Kunze.*
Crinita, *Hooker.*
Decurrens, *Hooker.*
Dombeyi, *Descaux.*
Echinata, *Moore.*

Elegans, *Martius.*
Elongata, *Hooker.*
Erubescens, *Kunze.*
Excelsa, *R. Brown.*
?Finlaysoniana, *Wallich.*
Gardneri, *Hooker.*
Glabra, *Hooker.*
Glauca, *J. Smith.*
Glaucescens, *Wallich.*
Hænkei, *Presl.*
Hirta, *Kaulfuss.*
Hookeriana, *Klotzsch.*
Humboldtii, *Klotzsch.*
Infesta, *Kunze.*
Junghuhniana, *Kunze.*
Læta, *Kunze.*
Lanuginosa, *Presl.*
Latebrosa, *Wallich.*
Lepifera, *J. Smith.*
Leschenaultiana, *Moore.*
Leucolepis, *Martius.*
Loddigesii, *Kunze.*
Lunulata, *R. Brown.*
Lurida, *Hooker.*
Marginalis, *Klotzsch.*
Melanopus, *Hsskl.*
Mertensiana, *Kunze.*
Mexicana, *Martius.*
Microdonta, *Desvaux.*
Microphylla, *Klotzsch.*
Miersii, *Hooker.*
Millefolia, *Desvaux.*
Miquelii, *Kunze.*
Mollissima, *Moore.*
Myosuroides, *Liebmann.*
Nigra, *Martius.*
Oblonga, *Klotzsch.*
Obtusa, *Klotzsch.*
Oligocarpa, *Fee.*
Oligosora, *Miquel.*
Paleolata, *Martius.*
Pauciflora, *Presl.*
Peruviana, *Klotzsch.*
Phalerata, *Martius.*
Plagiopteris, *Martius.*
Platyphylla, *Presl.*
Podophylla, *Hooker.*
Pœppigii, *Hooker.*
Polycampta, *Kunze.*
Procera, *Kaulfuss.*
Pruinata, *Kaulfuss.*
Pungens, *Kaulfuss.*
Pycnocarpa, *Kunze.*
Radens, *Kaulfuss.*
Samoensis, *Brackenridge.*
Schaffneriana, *Fee.*
Schiedeana, *Presl.*
Senilis, *Klotzsch.*
Setosa, *Kaulfuss.*
Speciosa, *Presl.*
Sprengeliana, *Martius.*
Squamulata, *Hooker.*
Subaculeata, *Splitgerber.*
Tænitis, *Kunze.*
Tenuisecta, *Blume.*
Tomentosa, *Endlicher.*
Tristis, *Blume.*
Truncata, *Brackenridge.*
Vestita, *Presl.*
Villosa, *Desvaux.*
Weigeltii, *Roemer.*

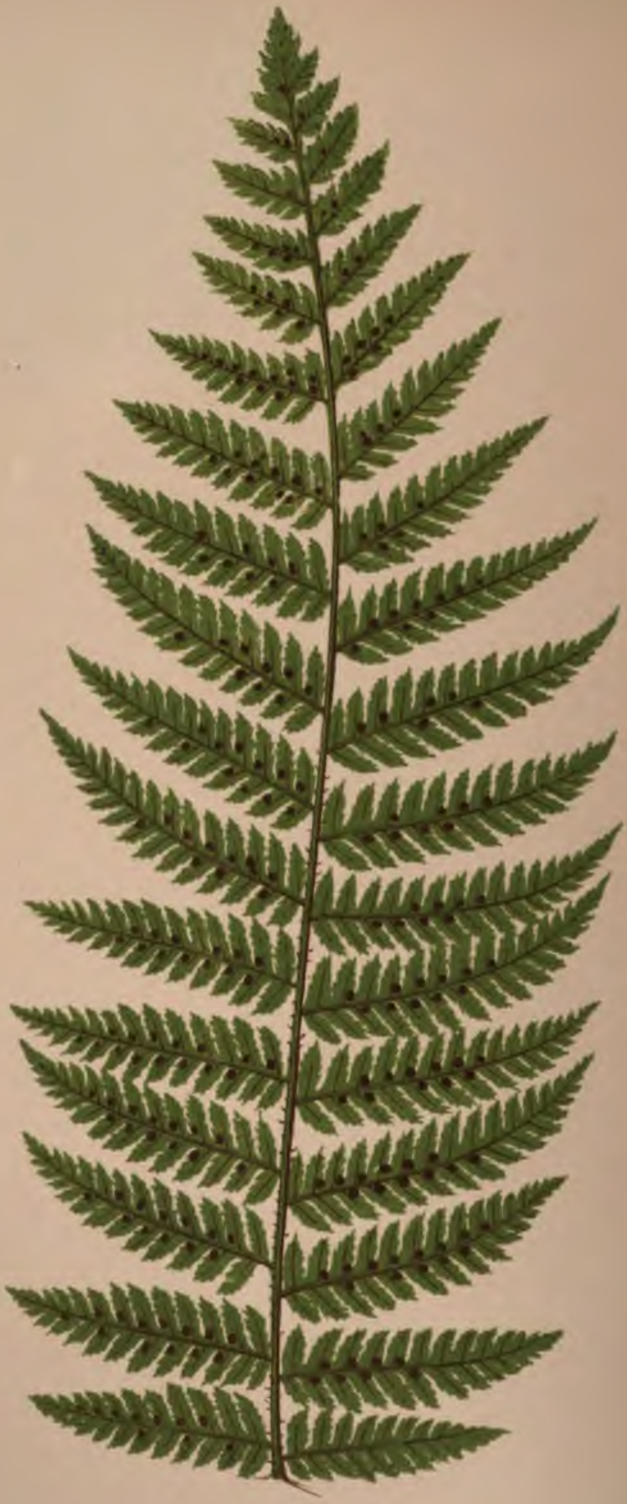
UNDER AMPHICOSMIA.

Alternans, *Moore.*
Australis, *Moore.*
Beyrichiana, *Moore.*
Capensis, *Moore.*
Cumingii, *Moore.*
Hostmanni, *Moore.*

Javanica, *Moore.*
Kegelii, *Moore.*
Lævis, *Moore.*
[illegible], *Moore.*
Macrocarpa, *Moore.*
Manillensis, *Moore.*
[illegible], *Gardner.*
Nigrescens, *Moore.*
Parkeri, *Moore.*
Strigosa, *Moore.*
Tahitensis, *Moore.*
Urolepis, *Moore.*
Walkeræ, *Moore.*

UNDER AMPHID

Blechnoides, *Klot*



ALSOPHILA CAPENSIS—PINNA.

LXII—VOL. 2.

Portion of fertile Frond—under side.

ALSOPHILA CAPENSIS.

J. Smith. Hooker. Kunze. Moore and Houlston.

PLATE LXII. VOL. VIII.

Polypodium capense,	Linnæus.
Hemitelia capensis,	R. Brown. Hooker. Presl. Fee.
“ “	Martius. Kaulfuss. Sprengel.
“ “	Desvaux. Schlechtendal. Kunze.
“ “	Blume. Mettenius.
“ *brasiliensis,*	Gardner.
“ *gardneriana,*	Presl.
“ *riparia,*	Desvaux.
Cyathea riparia,	Willdenow.
“ *capensis,*	Smith.
“ *monosorata,*	Willdenow.
“ *polypodioides,*	Swartz. Sprengel. Hooker.
Aspidium capense,	Swartz. Desvaux.
Amphicosmia riparia,	Gardner.
“ *capensis,*	Moore.
Cormophyllum capensis,	Newman.
Trichomanes ? cormophyllum,	Kaulfuss.

Alsophila—From *alsos*—a grove, and *philos*—to live, alluding to the habitat of the Ferns. *Capensis*—Cape of Good Hope.

A handsome, large, and arborescent Fern, not found in ordinary collections; and in its native countries growing in moist, watery places, and in mountain ravines.

An evergreen stove species.

Native of the Cape of Good Hope, Java, **Brazil,** and Org Mountains.

Introduced into the Royal Gardens, Kew, in **1845,** by M Zeyher.

The fronds, which are glabrous, are ovate-lanceolate in for and triplicato-pinnate; pinnæ lanceolate, acuminate, profoundl pinnatifid, (almost to the base;) segments acute, falcate, membranaceous, and serrated.

Stipes scaly at the base; rachis sparingly scaly.

Fronds terminal, adherent to an erect arborescent caude which rises to the height of twelve or fourteen feet.

Veins usually simple, in rare cases forked; and dark coloure

Sori cylindrical, much elevated, mostly solitary, and situat at the base of the lowest vein on the upper part of t segment.

Length of frond from forty to forty-five inches; colour lig green.

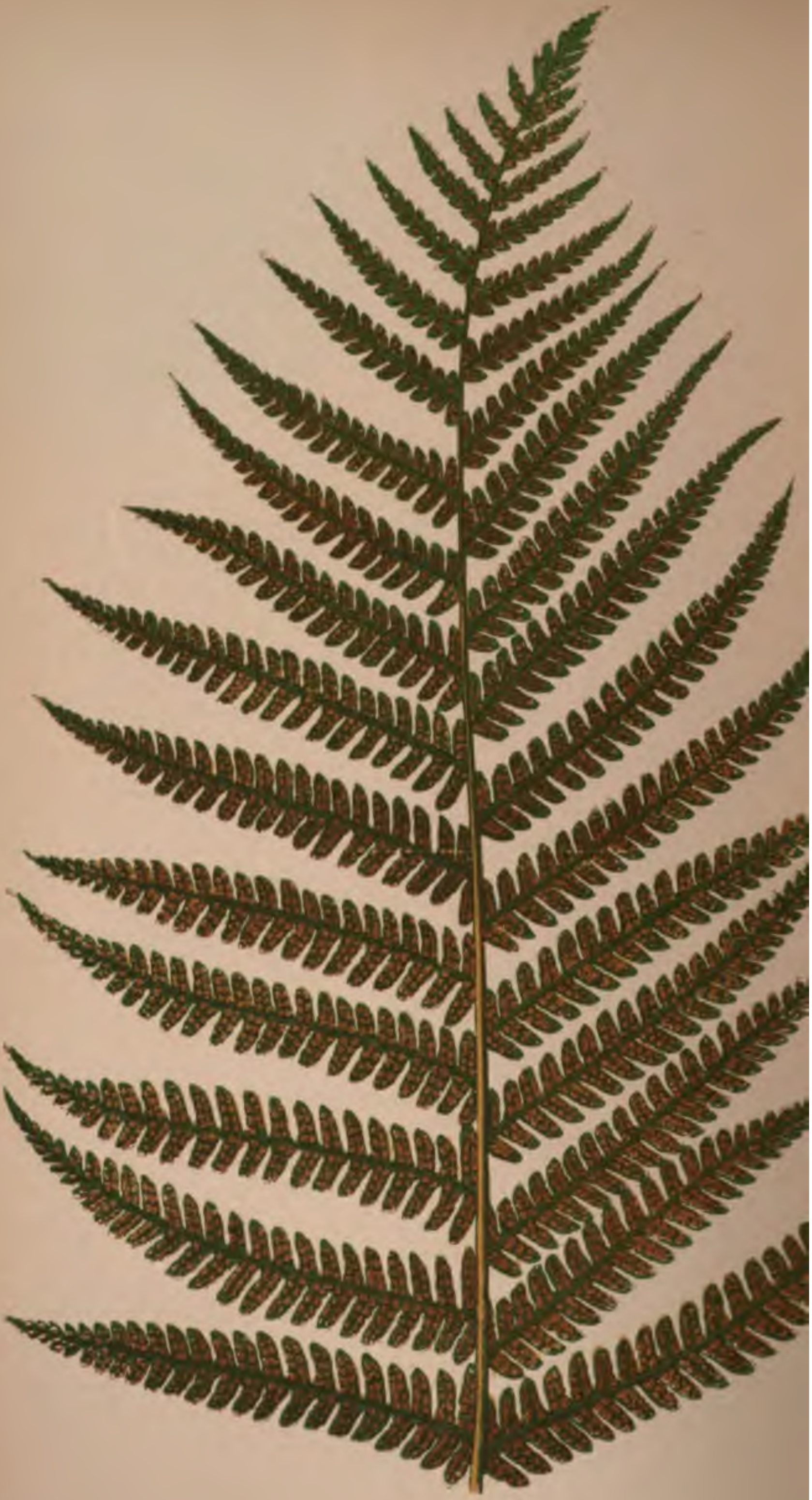
Very frequently the pinnæ undergo a remarkable change the lower part of the stipes, forming *abortive pinnæ,* brief, (fro three to four inches long,) many times multifid, with narro membranaceous hyaline segments, having a rigid costa, an so resembling a *Trichomanes* growing parasitically on the *A* *sophila,* that Kaulfuss named it *Trichomanes? cormophyllum.*

There is a variety known as var. *polyantha,* which bears fro four to six sori on each segment.

For fronds my thanks are due to Mr. G. Norman, of Hul and to Mr. Smith, Curator of the Royal Gardens, Kew.

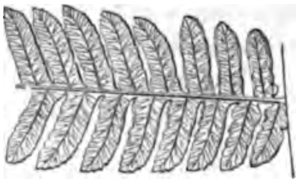
It may be procured of Messrs. Veitch, of the Exotic Nurser Chelsea, and of Mr. R. Sim, of Foot's Cray.

The illustration is from Mr. Norman's fronds.



ALSOPHILA AUSTRALIS—PORTION OF PINNA.

LXIII—VOL. 8.



Portion of mature Frond—under side.

ALSOPHILA AUSTRALIS.

R. BROWN. HOOKER. SIEBER. J. SMITH. PRESL. FEE.
SPRENGEL. DESVAUX. MOORE. KUNZE. BRACKENRIDGE.

PLATE LXIII. VOL. VIII.

Alsophila—From *alsos*, a grove, and *philos*, to live, alluding to the habitat of the Ferns. *Australis*—Australian.

A HANDSOME rare Fern.

An evergreen warm greenhouse species.

Native of New Holland and Tasmania.

Fronds glabrous, bipinnate, and ovate-lanceolate in form, the pinnules (which are only from two to four inches in length,) are linear-lanceolate in form, acuminate, and profoundly pinnatifid, segments ovate-acute. Stipes and rachis muricate, base scaly.

Veins simple and forked.

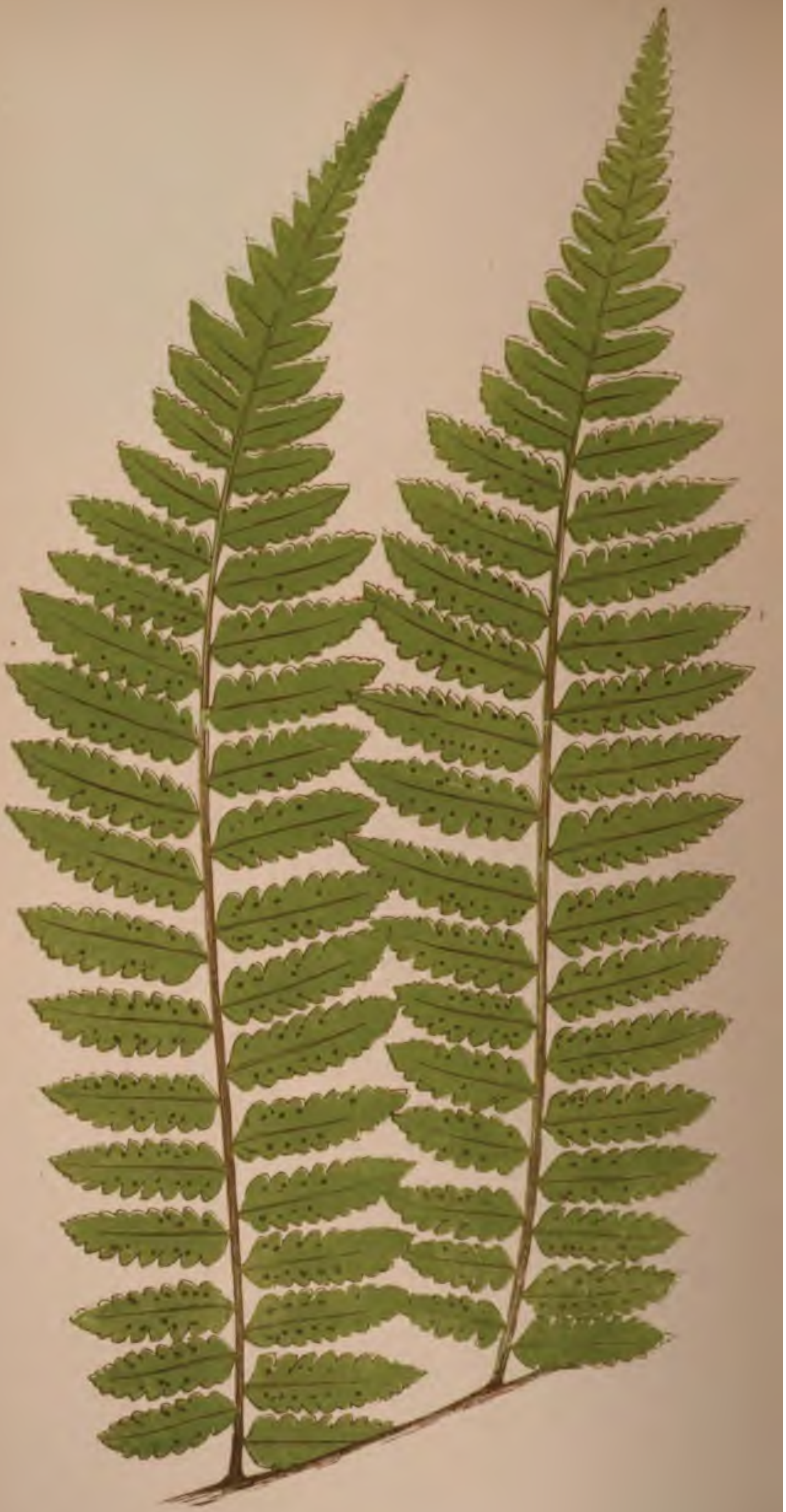
Sori from one to four, situated on the basal portion of the segment.

Length of frond from ten to thirteen feet; colour pale green, somewhat glaucous beneath; caudex arborescent, the stems rising to the height of thirty feet, and being about three feet in circumference near the base.

For a plant my thanks are due to Sir W. J. Hooker, Direc of the Royal Gardens, Kew; and for fronds to Mr. D. Moo of the Glasnevin Gardens, and to Mr. Veitch, of Chelsea.

It is in the Catalogues of Messrs. Veitch, of Chelsea; Ke nedy, of Covent Garden; and Sim, of Foot's Cray.

The illustration is from Mr. D. Moore's fronds.



ALSOPHILA RADENS.—VIRENS.

LXIV.—VOL. 6.

Portion of fertile Frond—under side.

ALSOPHILA RADENS.

KAULFUSS. HOOKER. J. SMITH. SPRENGEL. MOORE.
PRESL. KUNZE. METTENIUS.

PLATE LXIV. VOL. VIII.

Alsophila—From *alsos*, a grove, and *philos*, to live, alluding to the habitat of the Ferns. *Radens*—Scraping.

AN interesting species.

An evergreen stove Fern.

Native of Brazil.

The fronds, which are bipinnate and somewhat pointed in form, and smooth, have linear-lanceolate pinnatifid pinnules; pinnæ about two feet in length, approximate, and sub-opposite, segments oblong-obtuse. Pinnules an inch and a half to two inches in length.

Veins branched.

Costa paleaceous. Stipes and rachis scaly and blackish, densely aculeate at the base.

Sori small and globose.

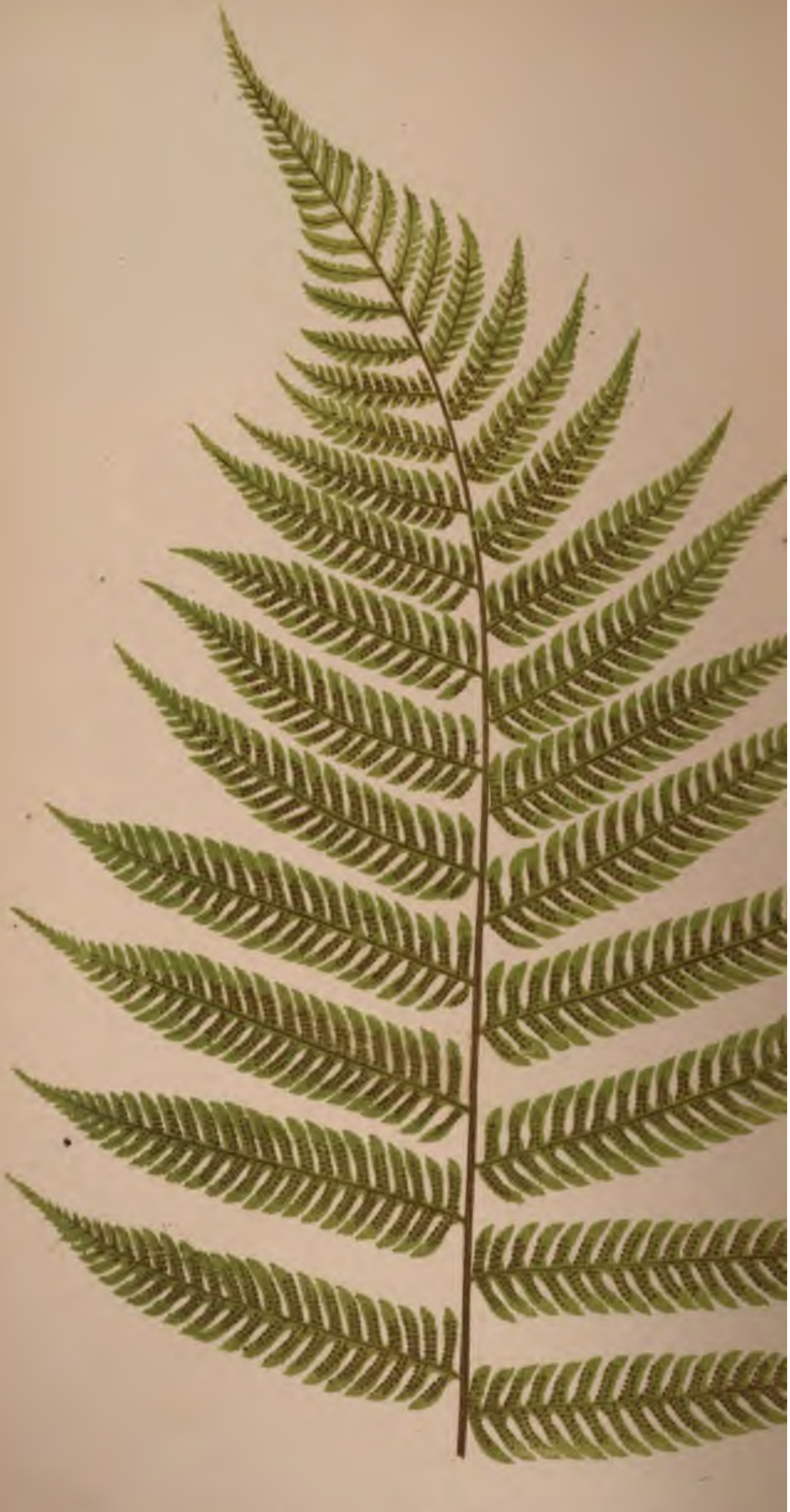
The fronds rising from a tree-like crown.

Length of frond from four to six feet; colour brilliant green.

My obligations are due to Mr. J. Henderson, of Wentworth; Mr. D. Moore, of the Glasnevin Botanic Gardens; Mr. Veitch, of Chelsea; and to Mr. Norman, of Hull, for fronds of this species.

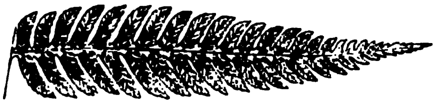
It can be procured of Messrs. Veitch, of Chelsea; Rollisso of Tooting; E. G. Henderson, of St. John's Wood; Sim, Foot's Cray; Kennedy, of Covent Garden; and Stansfield, Todmorden.

The illustration is from Messrs. Veitch's frond.



ALSOPHILA [illegible]—PORTION OF FROND.

LXV.—Vol. I.



Portion of mature Frond—under side.

ALSOPHILA FEROX.

Presl. Hooker. Fee. Kunze. Brackenridge. Schott.

PLATE LXV. VOL. VIII.

Alsophila armata,	Martius. (*Not of* Presl.)
" "	Splitgerber. Schnizl. Mettenius.
" *sellowiana,*	Presl.
" *aculeata,*	Kunze. J. Smith. (*Not of* Hooker.)
" *raddiana,*	Gaudichaud.
Cyathea ferox,	Presl.
Polypodium aculeatum,	Raddi. Sprengel. Desvaux.
" *armatum,*	Willdenow. Kunze.
Chnoophora aculeata,	Kaulfuss.

Alsophila—From *alsos*, a grove, and *philos*, to live, alluding to the habitat of the Ferns. *Ferox*—Fierce, in reference to the thorny character of the plant.

A coarse-looking, large-growing, though elegant Fern, remarkable for lengthy sharp thorns, with which it is abundantly provided.

An evergreen stove species.

Native of South America and West Indies, Jamaica, Brazil, Bahia, Surinam, Guiana, Cayenne, and Trinidad.

The fronds, which are glabrous, are broadly lanceolate in form, bipinnate, with sessile, linear-lanceolate, rather membranous, profoundly pinnatifid pinnules, and linear-oblong, somewhat falcate segments, with a serrated margin.

Rachis, stipes, and even midrib of pinnæ aculeate, with lo sharp thorns.

Length of frond from five to seven feet.

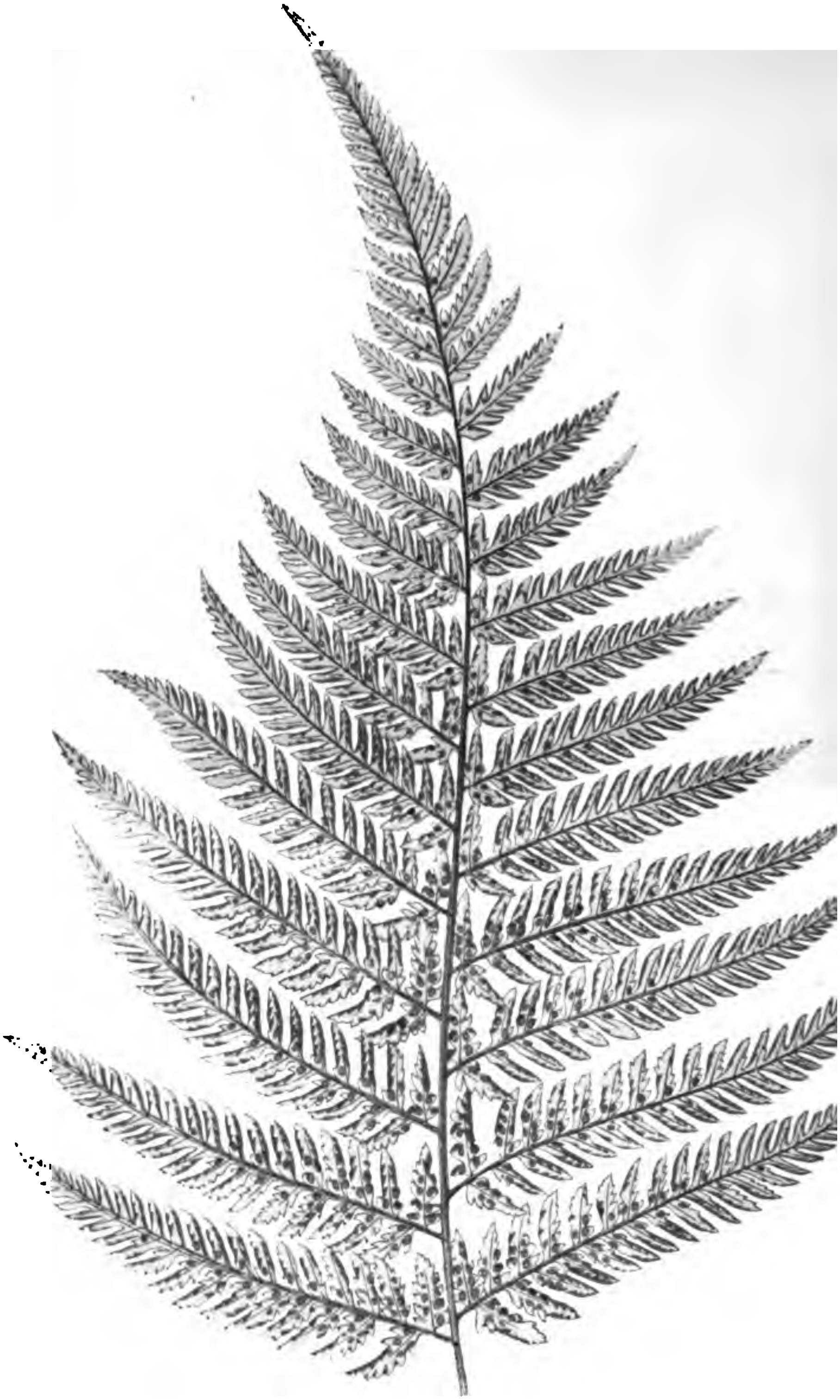
Fronds terminal; caudex erect and often branching.

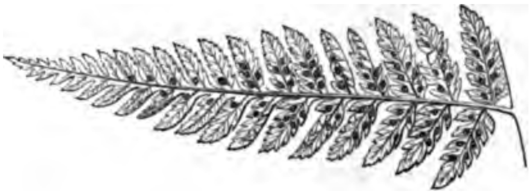
Sori copious, but not wholly covering the segments.

For fronds my thanks are due to Mr. J. Henderson, Wentworth, and Mr. Norman, of Hull.

It may be procured of Messrs. Veitch, of Chelsea; Rollisso of Tooting; Jackson, of Kingston; Kennedy, of Covent Garde Sim, of Foot's Cray; and Booth, of Hamburg.

The illustration is from Mr. J. Henderson's frond.





Portion of fertile Frond—under side.

ALSOPHILA PRUINATA.

Kaulfuss. Hooker. Kunze. Moore. Linnæus.
Presl. Martens and Galleotti. Klotzsch. Fee.
Mettenius.

PLATE LXVI. VOL. VIII.

Polypodium pruinatum,	Swartz. Willdenow. Sprengel.
" "	Desvaux. Kaulfuss. Presl.
" *glaucum,*	Swartz.
" *cinereum,*	Cavanilles.?
" *griseum,*	Schkuhr.
" *cæsium,*	Presl.?
Cyathea discolor,	Bory. Fee.
Lophosoria pruinata,	Presl. J. Smith.
" *discolor,*	Presl.
" *affinis,*	Presl. Kunze.
" *polypodioides,*	Presl.
Alsophila cinerea,	Martius.
" *affinis,*	Fee. Schott.
" *deckeriana,*	Klotzsch. Kunze.
Trichosorus glaucescens,	Liebmann.
" *frigidus,*	Liebmann.

Alsophila—From *alsos*, a grove, and *philos*, to live, alluding to the habitat of the Ferns. *Pruinata*—Like hoar-frost, in reference to the glaucous under side of the frond.

A VERY beautiful large-growing species, and exceedi distinct.

An evergreen stove Fern.

Native of Jamaica, Brasil, Chili, Mexico, Juan Fernan Conception Island, Valdivia, Columbia, Venezuela, Car New Granada, and Chiloe.

Fronds bipinnate and ovate-lanceolate; pinnules very nume lanceolate, profoundly pinnatifid, and not much exceedin inch in length; segments ovate-lanceolate, very acute, sinuato-serrate.

Veins simple.

A solitary sorus at the base of each segment.

Rachis and stipes with soft woolly hairs.

Length of frond from four to six feet; colour light g on the upper surface, and very glaucous beneath, al silvery, indeed as much so as the *Cyathea dealbata.*

Sir W. J. Hooker remarks that it is an abundant Ja Fern, and that it has a stem from three to eight fee height, the stipes perfectly smooth, and that Mr. Dou compares it to a small pine tree, leafy at the top.

For fronds I must tender my thanks to Mr. G. Norma Hull.

This plant can be procured of Messrs. Veitch, of Che Sim, of Foot's Cray; Kennedy, of Covent Garden; and B of Hamburg.

The illustration is from a frond forwarded by Mr. Norm

OSMUNDEÆ.

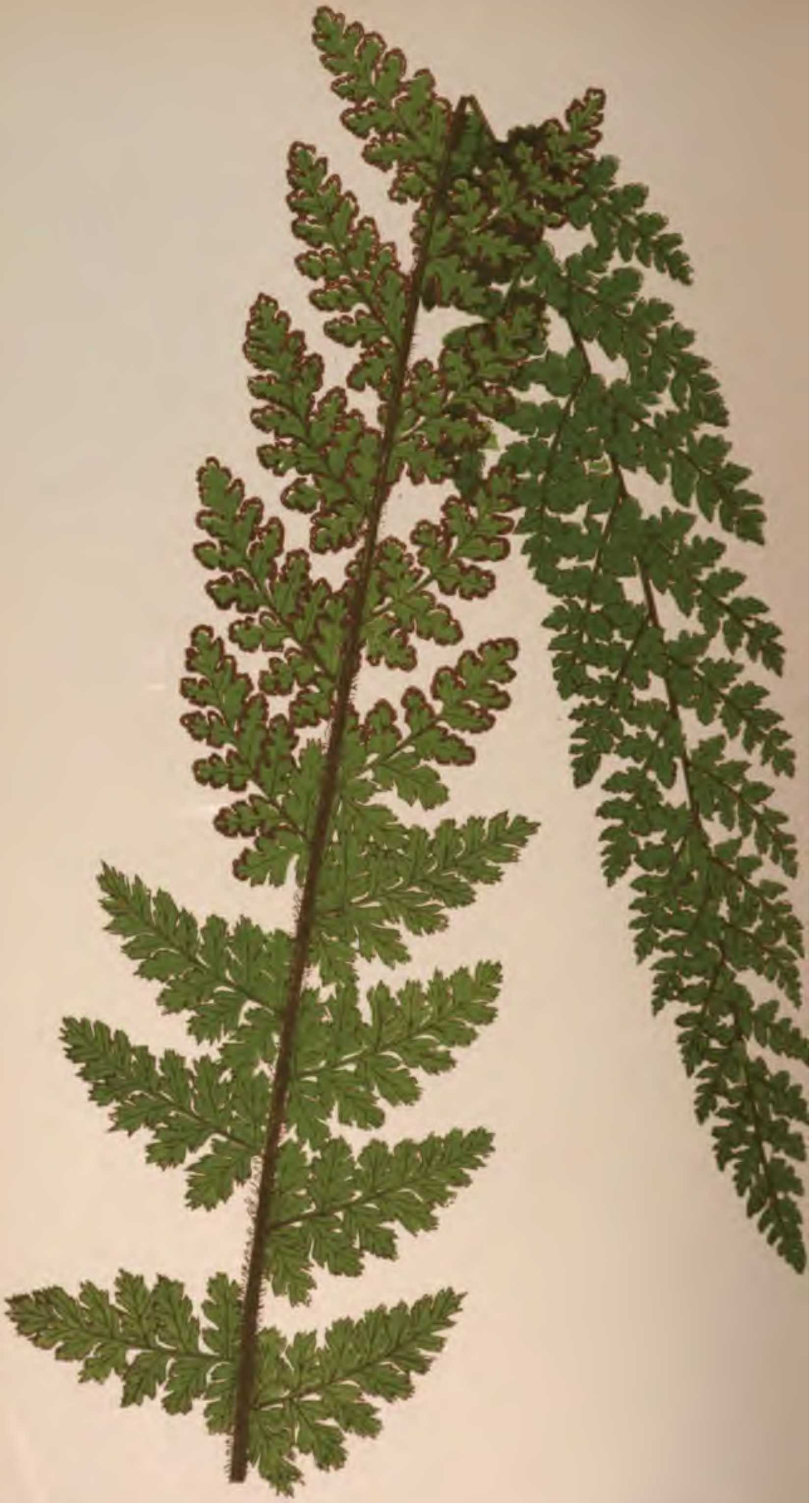
GENUS II.

TODEA. WILLDENOW.

FRONDS bipinnatifid, fertile fronds subcontracted. Veins forked, venules free. Sori naked. Allied to *Osmunda.*

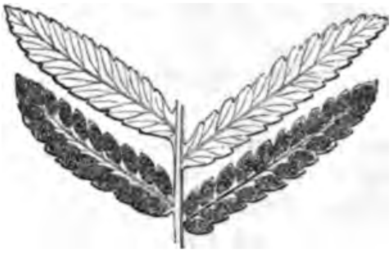
A small genus, of which two only are introduced into England, namely, *Todea africana,* and *T. hymenophylloides,* both natives of the southern hemisphere.

For Genus I., *Osmunda,* see pages 1 to 10 of the present volume.



MOHRIA THURIFRAGA.—PORTION OF FROND.

LXX.—Vol. 8.



Portion of Frond, barren and fertile—upper side.

TODEA AFRICANA.

WILLDENOW. SCHKUHR. HOOKER. J. SMITH.

PLATE LXVII. VOL. VIII.

Todea rivularis,	SIEBER. J. SMITH. KUNZE.
Acrostichum barbarum,	LINNÆUS.
Todea australasica,	A. CUNNINGHAM.

Todea—Named after H. J. Tode, a German cryptogamist.
Africana—African.

A HANDSOME Osmunda-looking Fern, and closely allied to that genus. It will be seen that I have united under ***Todea africana,*** the two Ferns known as ***Acrostichum barbarum*** of Linnæus, and ***Todea rivularis*** of Sieber.

A warm greenhouse species.

Native of South Africa, Australia, and Tasmania.

Fronds bipinnatifid, coriaceous, and spreading, widest in the middle, and of an oval triangular form. Pinnæ sub-opposite.

Veins forked, venules free.

Sori naked, oblong-linear, eventually confluent, the four or five pairs of basal segments alone fertile, and these are minutely stalked.

In all but the upper pinnæ, the segments are divided to the decurrent belt, which runs along the midrib; in the u portion of the frond this is not the case. Margin seri Apex attenuated.

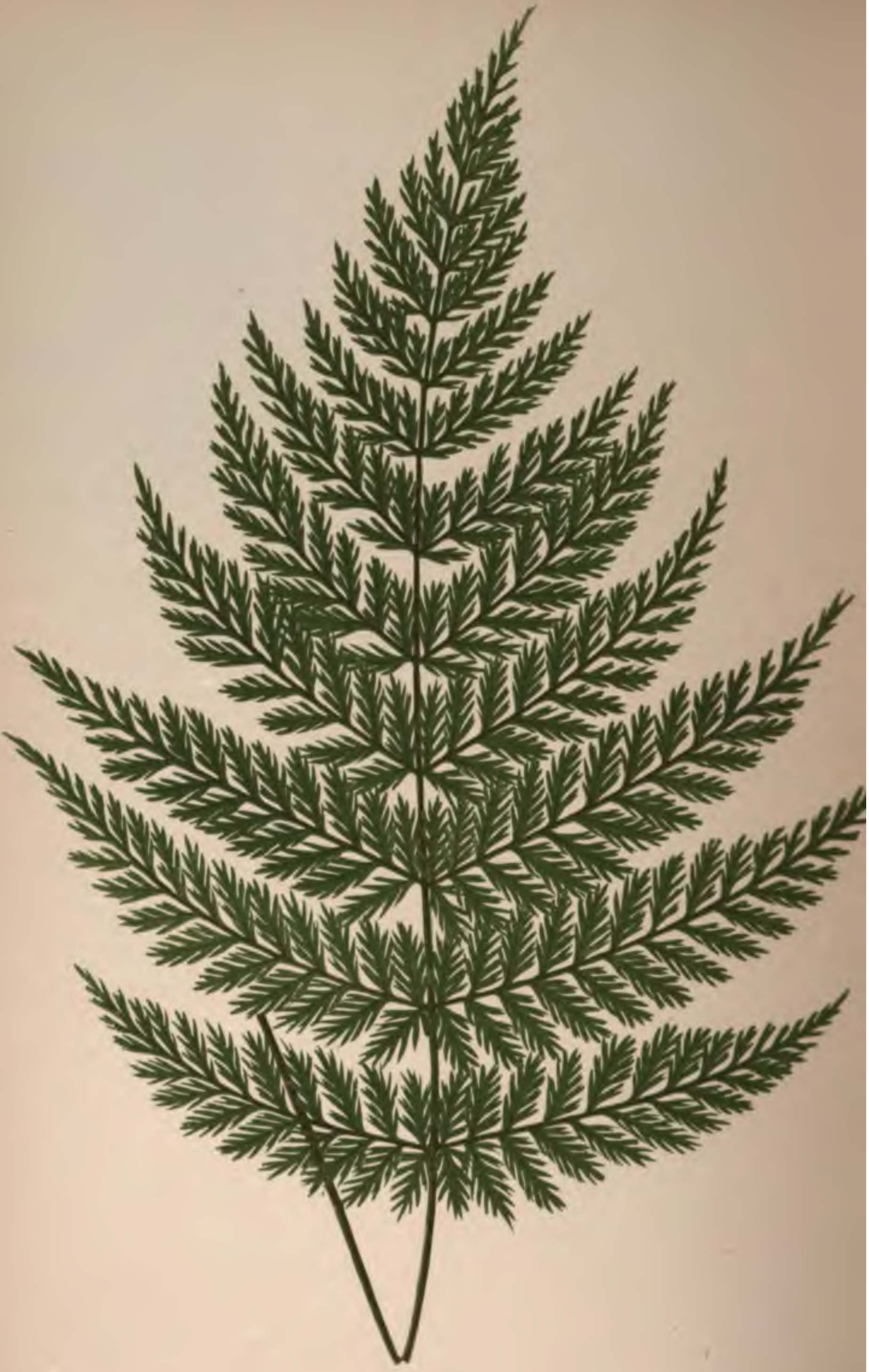
Rachis and stipes very long, smooth, and stout, rising an elevated crown.

Length of frond from three to six feet; colour deep gre

For a plant my thanks are given to M. Schott, Direc the Imperial Gardens of Schonbrünn; and for fronds to M Smith, Curator of the Royal Gardens, Kew; Mr. G. No of Hull; and Mr. Henderson, of Wentworth.

It may be procured of Messrs. Rollisson, of Tooting; V of Chelsea; Sim, of Foot's Cray; Kennedy, of Covent Ga Cooling, of Derby; and Booth, of Hamburg.

The illustration is from Mr. J. Smith's fronds.



TODEA HYMENOPHYLLOIDES.

LXVIII - VOL. 3.

Portion of mature Frond—under side.

TODEA HYMENOPHYLLOIDES.

RICHARD. HOOKER. J. SMITH.

PLATE LXVIII. VOL. VIII.

Todea pellucida,	CARMICHAEL. HOOKER.
Leptopteris hymenophylloides,	PRESL.

Todea—Named after H. J. Tode, a German cryptogamist.
Hymenophylloides—Hymenophyllum-like.

AN exceedingly lovely hymenophyllum-looking graceful Fern, which should be in every collection.

An evergreen greenhouse species.

Native of New Zealand.

Fronds bipinnatifid, membranaceous, pellucid, and multifid, spreading, triangular in form, and three to four inches wide. Pinnæ opposite, and segments sub-opposite, pinnæ approximate, the two basal pairs widest.

Veins forked, direct, and free.

Sori naked, and scattered in little bundles over the lower half of the frond.

Rachis, stipes, and midrib of pinnæ slender and hirsute; crown stout and elevated.

Length of frond from twelve to sixteen inches; colour vivid green.

This plant should be grown in a porous soil in a damp atmosphere, and in a situation where there is very little s shine. In a freely-ventilated greenhouse it will require protection of a hand-light.

For fronds my thanks are due to Mr. J. Smith, Curator the Royal Gardens, Kew; Mr. Sim, of Foot's Cray; and Mr. Cooling, of the Mileash Nursery, Derby.

It may be procured of Messrs. Sim, of Foot's Cray; Vei of Chelsea; Rollisson, of Tooting; E. G. Henderson, of John's Wood; and Cooling, of Derby.

The illustration is from Mr. Cooling's fronds.

LINDSÆÆ.

HAVING sporangiferous receptacles, combined, forming a linear, continuous, or interrupted marginal sorus.

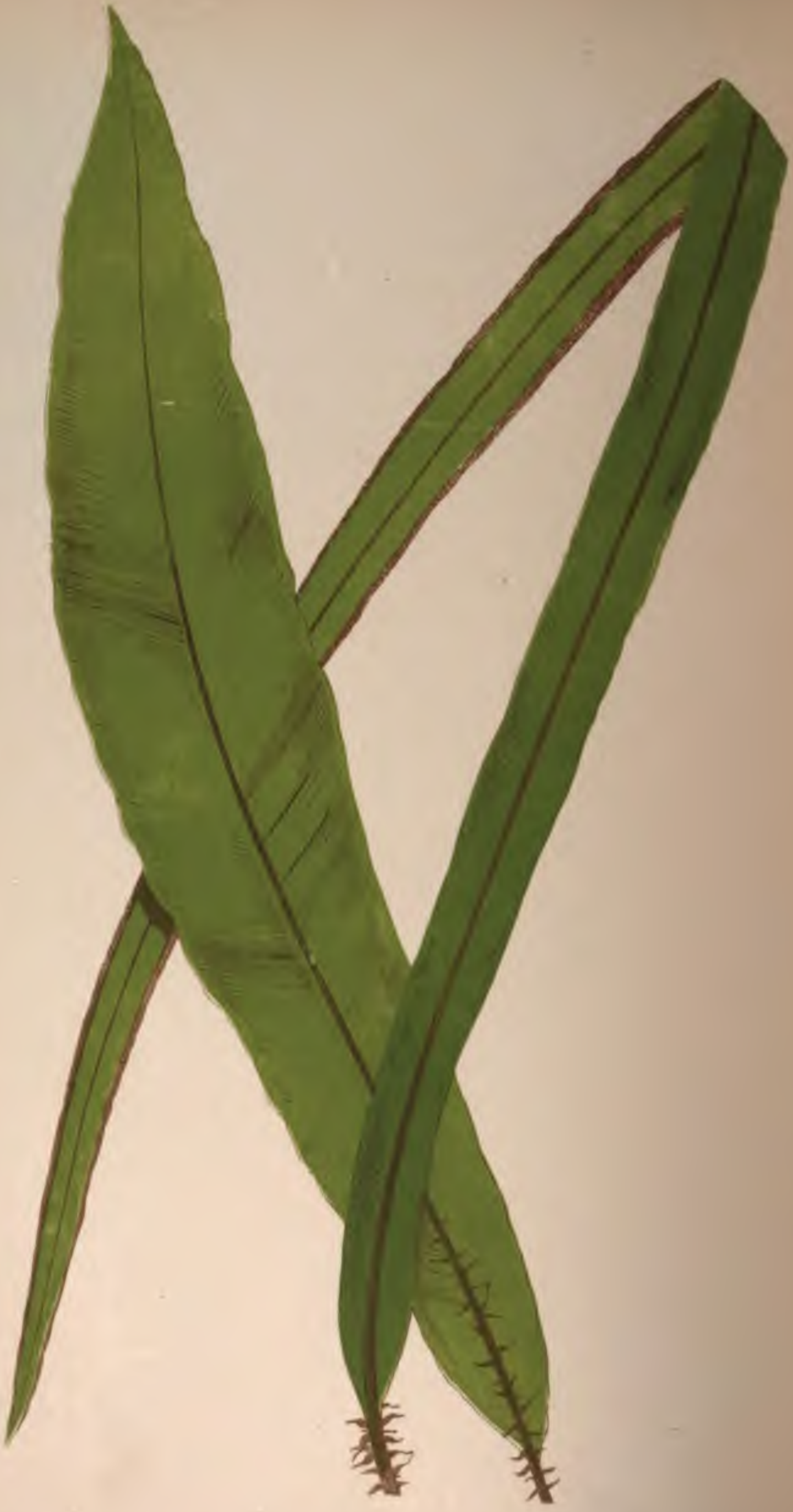
GENUS I.

DICTYOXIPHIUM. HOOKER.

REPRESENTED by a solitary species, the ***Dictyoxiphium panamense***.

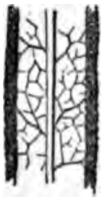
Fronds ensiform, simple, the fertile ones contracted. Sori linear and continuous, forming a marginal belt on either edge of the frond. Veins compoundly-anastomosing, and internal.

The habit and general appearance of the plant (excepting as regards the sori) not unlike ***Polypodium irioides***.



DICTYOXIPHIUM PANAMENSE.

LXIX.—VOL. 2.



Portion of fertile Frond—under side.

DICTYOXIPHIUM PANAMENSE.

HOOKER. J. SMITH.

PLATE LXIX. VOL. VIII.

Dictyoxiphium—Signifying a *sword*, in allusion to the form of the frond, and a *net*, to its reticulated veins. *Panamense*—Of Panama.

A VERY distinct-looking Fern, singular in appearance, and rare.

An evergreen stove species.

Native of the Isthmus of Panama, where it was found by Cuming, and of New Grenada, where it was found by Purdie.

Somewhat erect in habit.

Fronds glabrous, simple, entire, linear-lanceolate in form, or ensiform, coriaceous, attenuated towards the base and apex, and decurrent on the stipes. Rhizoma fasciculate, stout, and erect.

Stipes short, and, as well as the midvein, scaly.

Sori linear, marginal, continuous, and double. Indusium linear and continuous, and opening from the upper surface of the frond.

Fertile fronds contracted.

Veins internal, compoundly anastomsing, with free veinlets terminating in the areoles.

Length of frond from twenty-four to thirty-six inches, width from two inches to two inches and a half. Costa stout, being prominent on both sides of the frond, and ebeneous.

For fronds my obligations are due to Mr. J. Smith, Curator of the Royal Gardens, Kew; Mr. D. Moore, of the Glasnevin Botanic Gardens; Mr. Veitch, of the Exotic Nursery, Chelsea; and Mr. Sim, of Foot's Cray.

It may be procured of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; Rollisson, of Tooting; and Jackson, of Kingston.

The illustrations are from Mr. Veitch's fronds.

SCHIZÆEÆ.

SPORANGIA oval or oblong, opening on the exterior side, on contracted racemes, or on terminal or marginal appendices, or the fertile frond contracted. Apical ring complete.

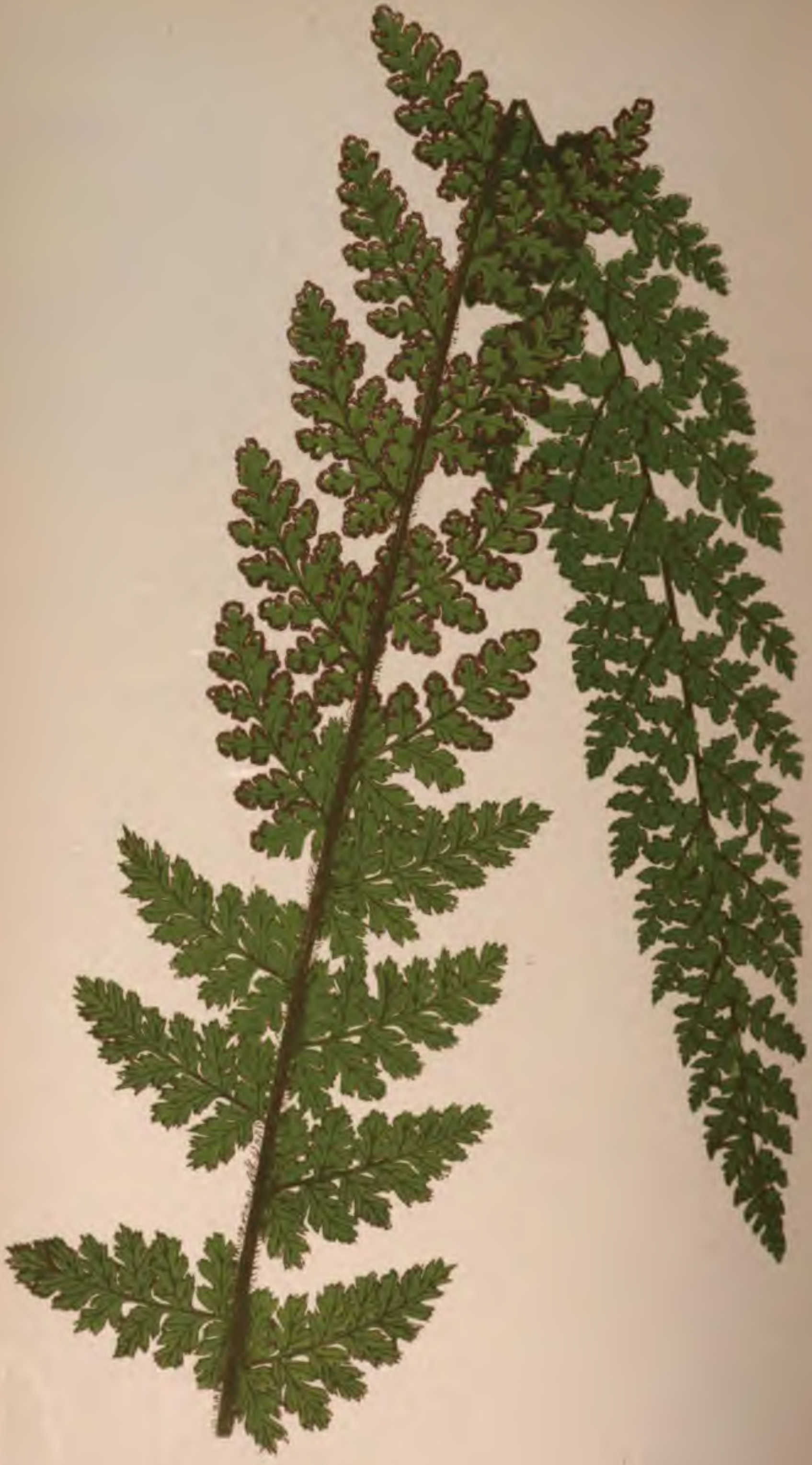
GENUS I.

MOHRIA. SWARTZ.

A SOLITARY species from Southern Africa represents this genus, namely, the *Mohria thurifraga.*

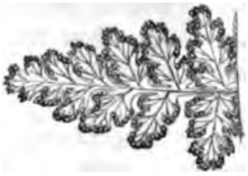
The fronds, which are bipinnate and having entire pinnæ, have the fertile ones contracted, forming a sporangiferous raceme.

Veins free. Sporangia sessile, almost globose, and opening vertically on their exterior side.



MOHRIA THURIFRAGA.—PORTION OF FROND.

LXX—Vol. 8.



Portion of fertile Frond—under side.

MOHRIA THURIFRAGA.

SWARTZ. SCHKUHR. HOOKER. J. SMITH. SCHOTT.

PLATE LXX. VOL. VIII.

Osmunda thurifraga, LINNÆUS.

Mohria—Named after M. Mohr, a German botanist.
Thurifraga—Frankincense.

A MOST interesting and distinct Fern, of erect habit.

An evergreen stove species.

Native of South Africa.

Received into the Royal Gardens, Kew, from the Royal Botanic Gardens of Berlin, in 1841.

Fronds bipinnate, narrow, equal in width, except near the apex and base; pinnæ entire, laciniated, or multifid, the fertile pinnæ usually contracted or sub-contracted. Pinnæ opposite or sub-opposite, distant below, approximate above.

Veins free and direct.

Sporangia sessile, nearly globose in form, opening vertically on their exterior side, and forming a raised border of rounded prominences along the edge of the frond on the under side.

Rhizoma short and creeping briefly.

Stipes and rachis very scaly; scales reddish. Leafy almost to the base.

Length of frond from twelve to twenty-four inches.

The fertile fronds are longer than the sterile ones, and the contraction of their lobes over the seed-masses gives them a very elegant appearance.

There is a variety known in gardens as *Mohria achilleæfolia,* named after the Yarrow, *(Achillea millefolium,)* the barren fronds of which it much resembles; this is dwarfer in habit, being only from six to nine inches in length, the barren fronds shortest and spreading, the fertile ones erect. A rare, lovely Fern.

For plants I am indebted to Mr. D. Moore, of the Glasnevin Gardens, and to Mr. J. Henderson, of Wentworth; and for fronds to Mr. J. Henderson; Mr. Norman, of Hull; and M. Schott, of the Imperial Gardens, Schonbrünn.

It is in the Catalogues of Messrs. Sim, of Foot's Cray; Veitch, of Chelsea; Rollisson, of Tooting; E. G. Henderson, of St. John's Wood; A. Henderson, of Pine-apple Place; Kennedy, of Covent Garden; Cooling, of Derby; and Booth, of Hamburg.

The illustration is from a plant in my own collection.

GENUS II.

ANEMIDICTYON. J. Smith.

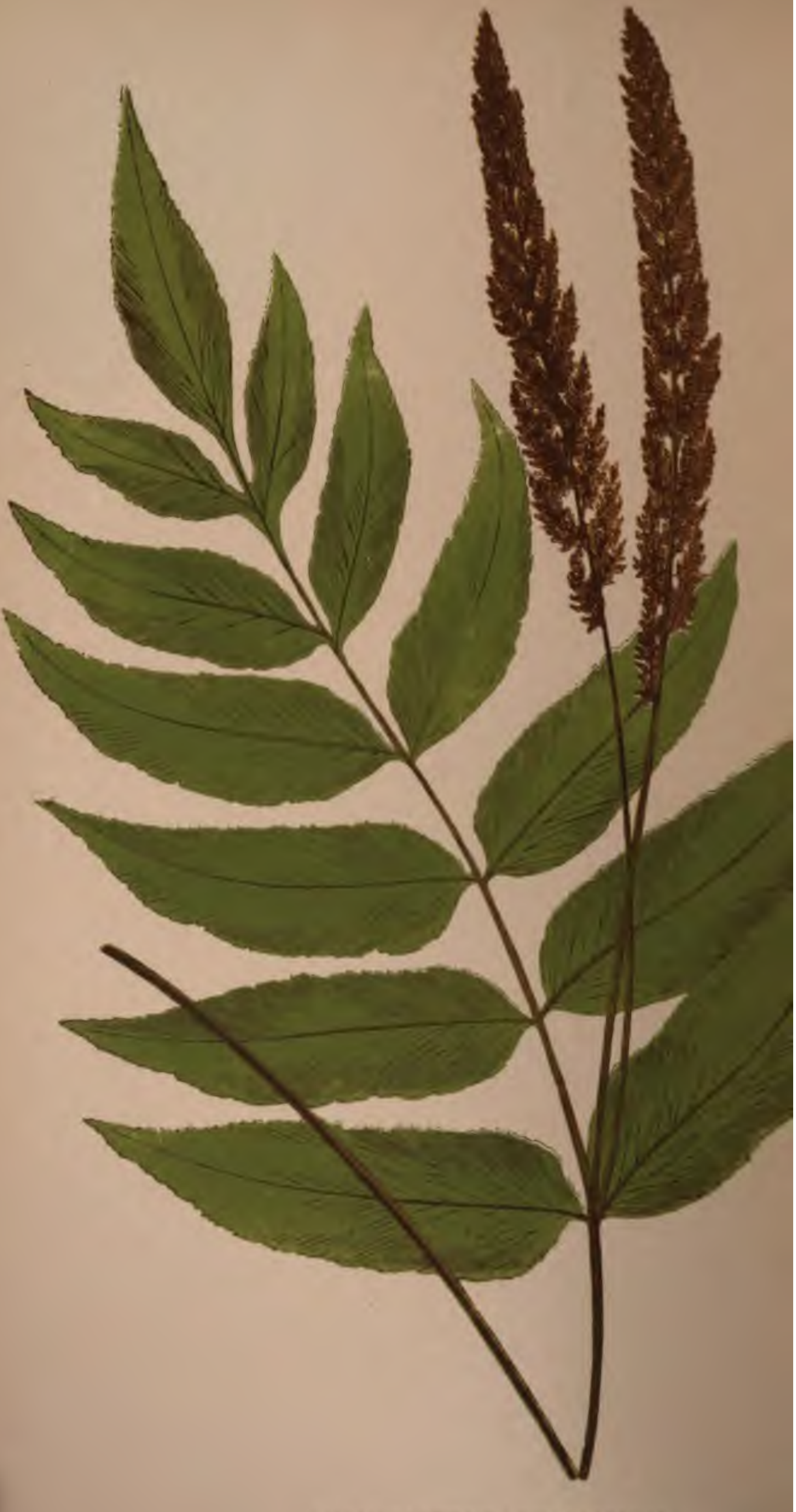
A small family of stove Ferns, having tripartite fertile fronds, the two opposite segments being contracted and erect in habit, forming two unilateral, sporangiferous, compound panicles, the third being sterile and spreading.

Veins forked; venules articulated.

Mr. Moore, in his "Index Filicum," gives—

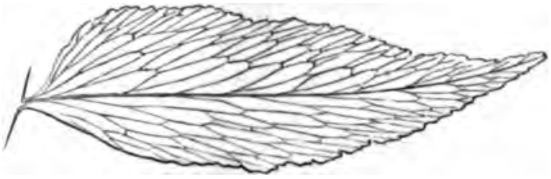
Hirtum, *Presl,* West Indies.
Phyllitidis, *J. Smith,* West Indies.
Tweedicanum, *Moore,* Brazil.

There is no British representative.



ANEMIDICTYON PHYLLITIDIS.

LXXI—Vol. 8.



Sterile pinnule—under side.

ANEMIDICTYON PHYLLITIDIS.

J. Smith. Hooker. Presl. Moore. Brackenridge.

PLATE LXXI. VOL. VIII.

Osmunda phyllitidis,	**Linnæus. Plumier. Lamarck.**
" "	**Velloz.**
" *brasiliensis,*	**Velloz.**
Anemia phyllitidis,	**Swartz. Willdenow. Sprengel.**
" "	**Liebmann. Hooker. Raddi.**
" "	**Desvaux. Kaulfuss. Link.**
" "	**Mettenius. Schlechtendal.**
" "	**Kunze. Klotzsch.**
" *fraxinifolia,*	**Raddi. Goldm. Desvaux.**
" "	**Gaudichaud. Kunze. Schott.**
" *longifolia,*	**Raddi. Goldm. Kunze.**
" *cordifolia,*	**Presl. Sprengel.**
" *hænkei,*	**Martens and Galleotti. Presl.**
" "	**Sprengel. Kunze.**
" *lanceolata,*	**Loddiges. Sweet.**
" *hirta,*	**Raddi. Pœppig.** (*Not of* **Swartz, Willdenow, Sprengel, Link, Kunze,** *or* **J. Smith.**)
" *sorbifolia,*	**Schrader.**
" *repanda,*	**R. Brown.**
" *laciniata,*	**Link. Kunze.**
Anemidictyon fraxinifolium,	**J. Smith. Presl.**
" *laciniatum,*	**Presl.**

Anemidictyon—From *aneimon*—naked, in reference to the naked inflorescence, and *diktuon*—a net, in reference to the reticulated venation.
Phyllitidis—Phyllitis-like.

A SINGULAR *Osmunda*-looking flowering Fern, of which there are several distinct forms.

An evergreen stove species.

Native of the West Indies, Jamaica, Island of Trinidad, Brazil, Peru, Columbia, Venezuela, New Grenada, Mexico, and Caraccas. Amongst Mexican stations Liebmann found it at three thousand feet above the sea, at Mirador and Oajaca, and at four thousand feet at Chinantla: Schiede found it at Jalapa, and Galleotti at Zacuapan.

Raised in the Royal Gardens, Kew, in the year 1829.

Fronds pinnate, the fertile ones ternately branched, the two lateral branches distinct, erect, and fertile; the terminal one spreading and sterile. Fronds triangular and stipitate; the pinnæ, from three to five pairs, and an ultimate one, entire, and ovate-lanceolate in form. Veins forked; venules reticulated.

Rhizoma brief and erect.

Spore-cases sessile, biserial on the ultimate segments, and oval in form.

Length of frond from twelve to twenty inches; colour a pale green.

Of the many forms of *Anemidictyon phyllitidis*, the variety *longifolium* is found in Brazil and Peru; the variety *cordifolium* also in Brazil and Peru, and in Venezuela, Caraccas, and Mexico; whilst the varieties *fraxinifolium* and *laciniatum* are both Brazilian.

Stipes lengthy.

For plants my thanks are due to M. Schott, Director of the Imperial Gardens of Schonbrünn, Vienna; Mr. Stratton, Curator of the Cambridge Botanic Gardens; Mr. J. Henderson, of Wentworth; Messrs. Rollisson, of Tooting; and Booth, of Hamburg.

It is in the Catalogues of Messrs. Sim, of Foot's Cray; Rollisson, of Tooting; Veitch, of Chelsea; Jackson, of Kingston; E. G. Henderson, of Wellington Nursery; A. Henderson, of Pine-apple Place; Kennedy, of Covent Garden; Stansfield, of Todmorden; Cooling, of Derby; and Booth, of Hamburg.

The illustration is from a plant in my own collection.

GENUS III.

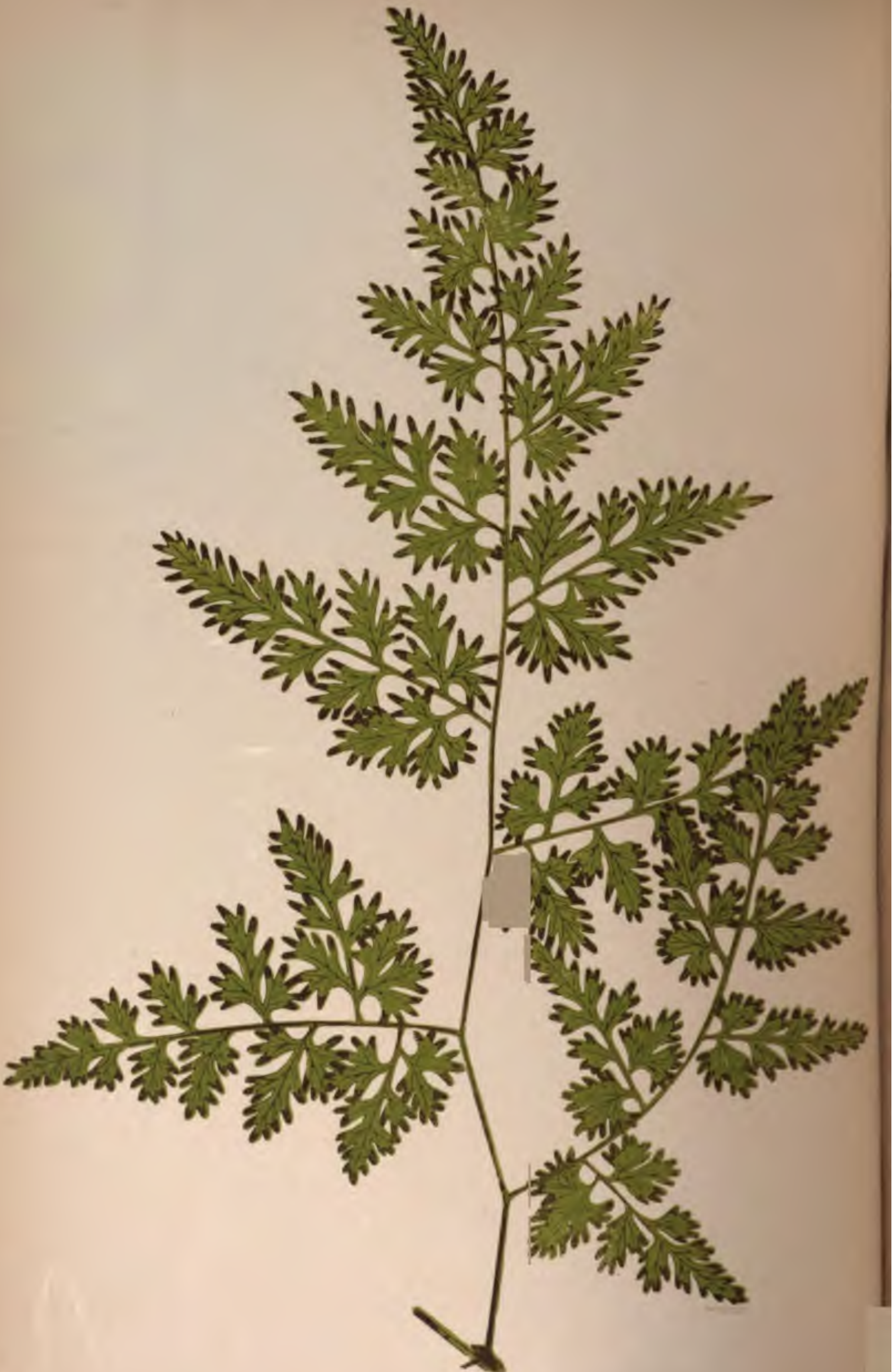
LYGODIUM. SWARTZ.

A GENUS of climbing Ferns, twining around supports, and growing to a great height. The pinnæ conjugate. Veins forked and free, extending beyond the margin, and forming sporangiferous spiculæ.

Mr. Smith, in his "Catalogue of the Ferns Cultivated at Kew," enumerates—

Palmatum, *Swartz,* North America.
Flexuosum, *Swartz,* East Indies.
Scandens, *Swartz,* East Indies.
Japonicum, *Swartz,* Japan.
Articulatum, *A. Richard,* New Zealand.

There is no British representative.



LYGODIUM JAPONICUM.—PINNA.

LXXII.—Vol. 8.

Portion of fertile Frond.

LYGODIUM JAPONICUM.

Swartz. Moore.

PLATE LXXII. VOL. VIII.

Lygodium scandens, Of Gardens.

Lygodium—From *lygodes,* flexible, in allusion to the twining habit of the plants. *Japonicum*—Japanese.

A very pretty climbing Fern.

A stove species.

Native of China and Japan.

Rachis scandent; fronds branched, mostly conjugate; fertile fronds contracted.

Veins forked; venules free, in the fertile spikelets pinnate.

Fructification compressed, dichotomous spikelets, exserted on the marginal teeth.

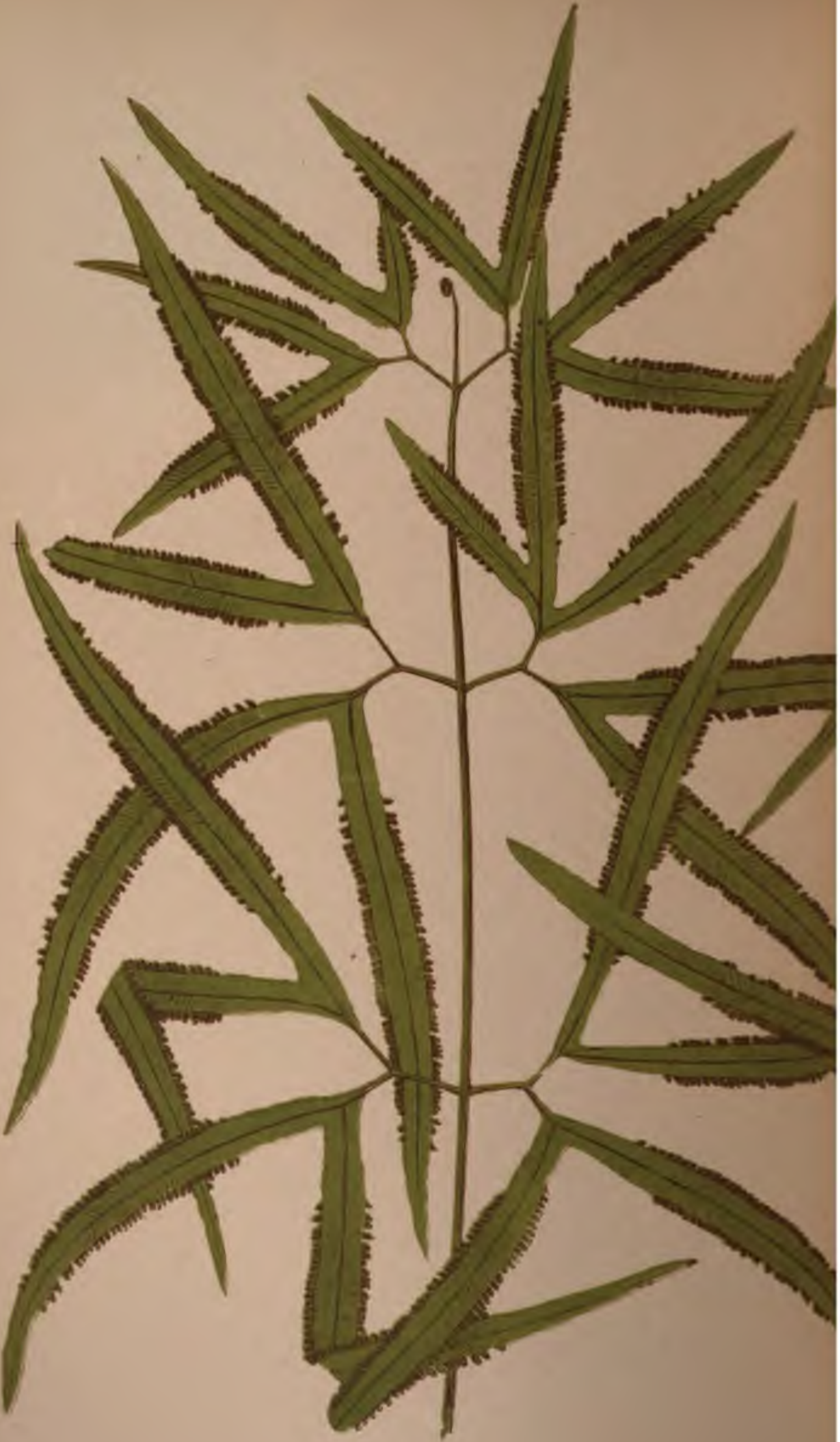
The fronds, which are twining, extend to an indefinite length.

For plants my thanks are offered to Mr. Joseph Henderson, of Wentworth; Mr. A. Henderson, of Pine-apple Place; Mr. Stratton, of the Cambridge Botanic Gardens; Mr. Lamb, of

Osmaston Manor; and M. Schott, of the Imperial Garde Schonbrünn: for fronds I am indebted to Mr. Norma Hull; Mr. Sim, of Foot's Cray; Miss Carr, of Qualt Rec Bridgenorth; and Messrs. Booth, of Hamburg.

It may be procured of any Nurseryman.

The illustration is from a plant in my own collection.



LYGODIUM FLEXUOSUM.—PORTION OF FROND.

LXXIII.—Vol. 8.

Portion of fertile Frond—under side.

LYGODIUM FLEXUOSUM.

SWARTZ. J. SMITH.

PLATE LXXIII. VOL. VIII.

Ophioglossum flexuosum,	LINNÆUS.
Lygodium dichotomum,	SWARTZ. HOOKER AND GREVILLE.
Hydroglossum flexuosum,	WILLDENOW.

Lygodium—From *lygodes*, flexible, in allusion to the twining habit of the plants. *Flexuosum*—Winding.

A VERY beautiful climbing Fern, which deserves to be extensively grown, and is the finest plant of this genus.

A stove species.

Native of the East Indies and the Malayan Archipelago.

Cultivated in the Royal Gardens, Kew, in 1834.

Fronds sub-bipartite; pinnules about twelve inches in length, smooth and vivid green, palmate, lanceolate-acuminate, serrulate, the fertile ones very much narrower, and bearing the spore-cases along the edges.

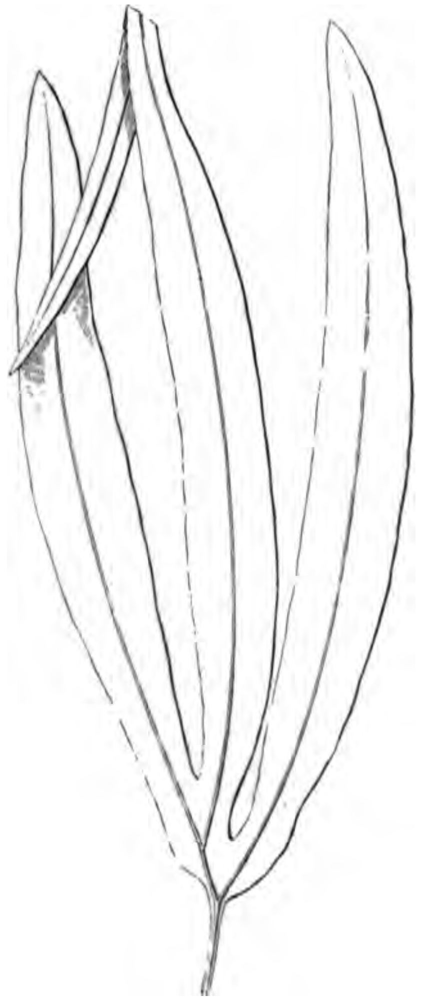
Veins branching and conspicuous.

The fronds, which are in pairs on inch long stalks and opposite each other, are distant, that is, usually about twelve inches apart.

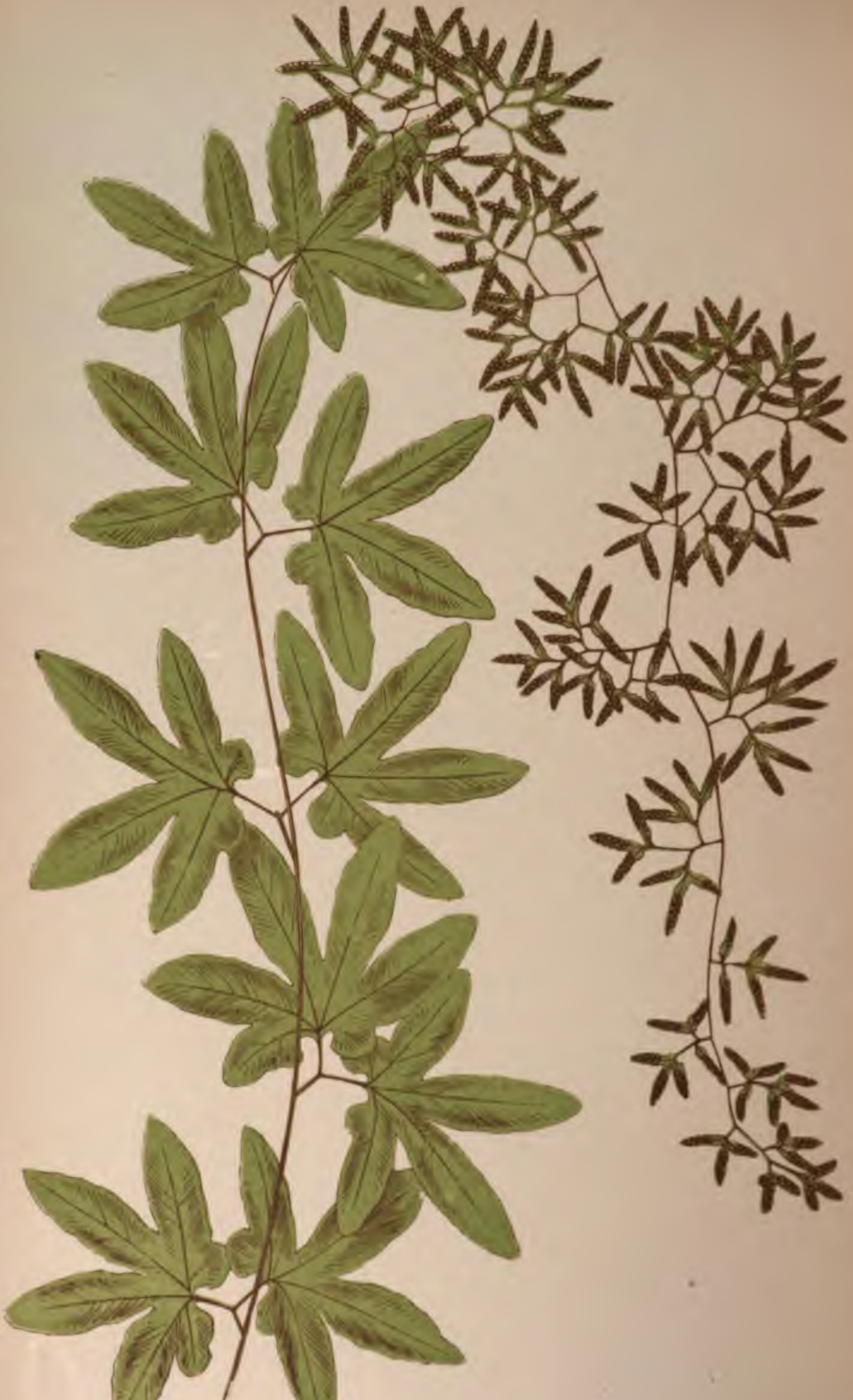
For fronds I am indebted to Mr. Clarke, Curator of the Royal Botanic Gardens of Glasgow.

It is in the Catalogues of Messrs. Sim, of Foot's Cray; Veitch, of Chelsea; and Kennedy, of Covent Garden.

The illustration is from Mr. Clarke's fronds.



Barren Frond.



LYGODIUM PALMATUM.—PORTION OF FROND,

LXXIV—Vol. 8.

Portion of Frond.

LYGODIUM PALMATUM.

SWARTZ. SCHKUHR. MOORE. J. SMITH.

PLATE LXXIV. VOL. VIII.

Hydroglossum palmatum, WILLDENOW.

Lygodium—From *lygodes*—flexible, in allusion to the twining habit of the plants. *Palmatum*—Hand-shaped.

AN interesting, very slender, climbing Fern.

A greenhouse or half-hardy species.

Introduced into the Royal Gardens, Kew, in 1845, by Dr. A. Gray.

Native of North America.

Sterile fronds smooth, brilliant green, and conjugate; pinnæ palmate, four to six-lobed in the barren portion, that is, the lower portion of the frond; the lobes oblong-obtuse and somewhat crenulate.

Fertile fronds contracted into small spikes; segments linear.

The fronds, which are palmate, that is, divided into five finger-like parts, are much more dwarf than in the majority of this genus.

Roots creeping every way in an intricate mass.

Length of frond from twelve to thirty-four inches.

For a plant and fronds my thanks are due to Mr. Joseph Henderson, of Wentworth.

It is in the Catalogues of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; Rollisson, of Tooting; and Kennedy, of Covent Garden.

The illustration is from a frond sent by Mr. Joseph Henderson, of Wentworth.

MARATTIACEÆ. KAULFUSS.

LARGE Ferns, with dorsal sporangia, exannulate, horny, opening by a longitudinal slit.

GENUS I.

ANGIOPTERIS. HOFFMANN.

FRONDS erect and subarboreous, rising from between two fleshy appendages. Veins simple or forked, and free. Sori biserial, opening on the inner side, forming a broad marginal row.

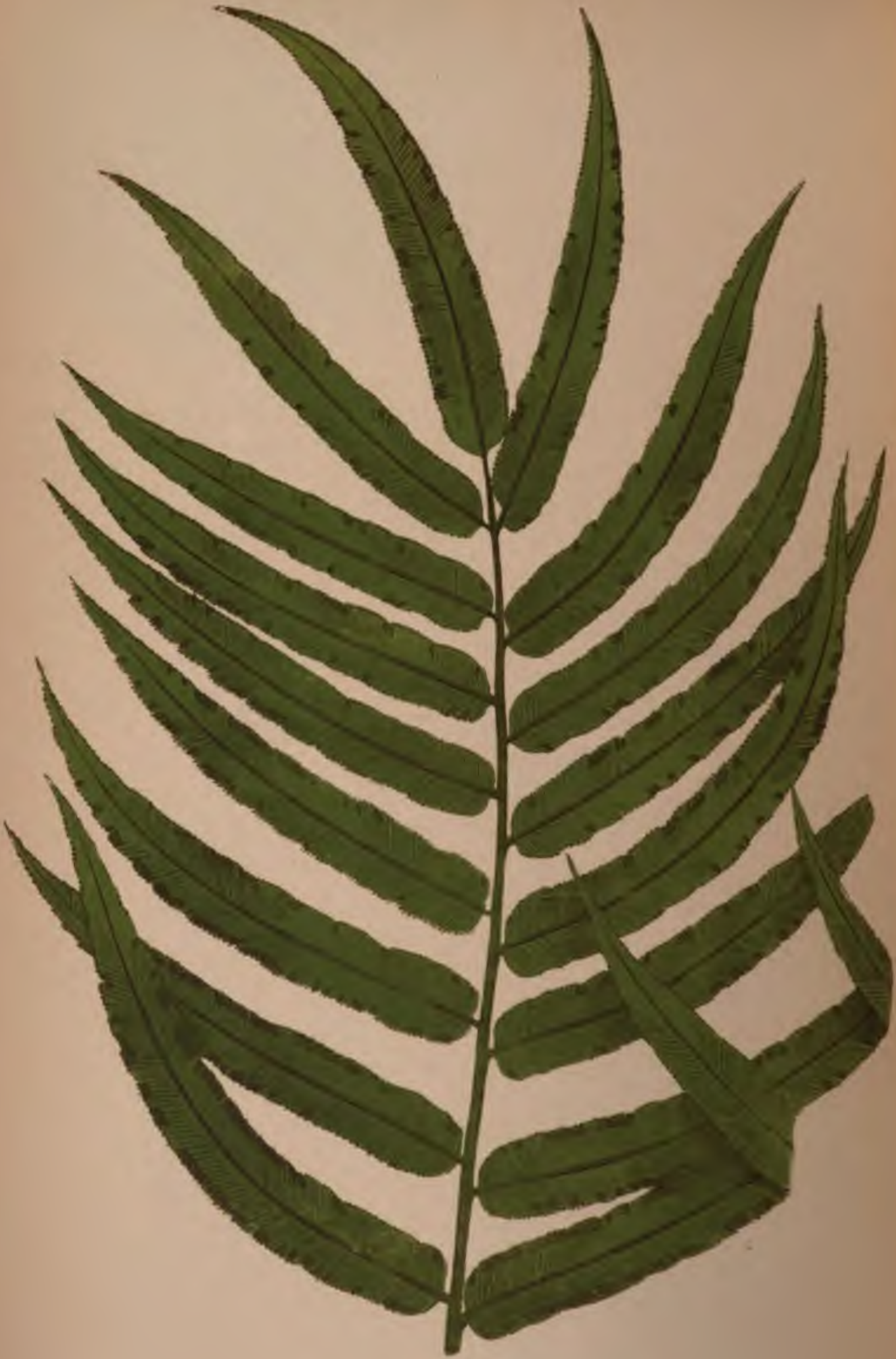
Two species, both stove plants, have been introduced into England, namely, *Angiopteris evecta* and *A. teysmanniana*.

Mr. Moore, in his "Index Filicum," gives—

Acrocarpa, *De Vriese*, Society Isles.
Amboinensis, *De Vr.*, Amboyna.
Angustifolia, *Presl*, Philippine Isles.
Angustata, *Miquel*, Java.
Ankolana, *De Vriese*, Sumatra.
Aphanosorus, *De Vr.*, Sumatra.
Approximata, *De Vr.*, Sumatra.
Arnottiana, *Miquel*, India.
Assamica, *De Vriese*, Assam.
Attenuata, *Brackenridge*, Philippine Isles.
Aurata, *De Vriese*, N. Zealand.
Beecheyana, *De Vr.*, Caroline Isles.
Brongniartiana, *De Vr.*, Tahiti.
Camptophlebia, *De Vr.*, India.
Caudata, *De Vriese*, Philippine Isles.
Cochinchinensis, *De Vriese*, Cochin China.
Commutata, *Presl*, Society Isles.
Crassifolia, *De Vriese*, Java.
Crassipes, *Wallich*, India.
Cupreata, *De Vriese*, Society Isles.
Cuspidata, *De Vriese*, Java.

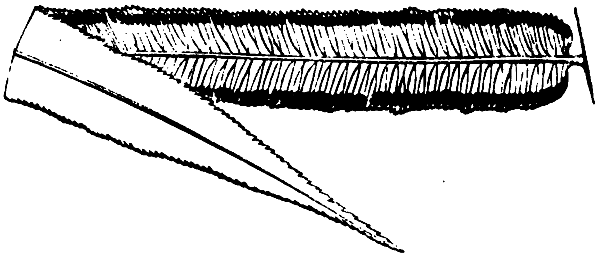
Distans, *Presl,* India.
Dregeana, *De Vriese,* Java.
D'Urvilleana, *De Vr.,* Society Isles.
Evecta, *Hoffmann,* Society Isles.
Gaudichaudiana, *De Vr.,* India.
Griffithiana, *De Vr.,* Mergui.
Hartingeana, *De Vriese,* Java.
Helferiana, *Presl,* India.
Hookeriana, *De Vriese,* India.
Hugeliana, *Presl,* India.
Hypoleuca, *De Vriese,* Java.
Indica, *Desvaux,* India.
Laciniata, *De Vriese,* India.
Lasegueana, *De Vr.,* Huahine.
Latifolia, *Presl,* India.
Leschenaultiana, *De Vr.,* Ceylon.
Longifolia, *Hooker,* Society Isles.
Macrocephala, *Presl,* India.
Macrophylla, *De Vriese,* India.
Madagascariensis, *De Vriese,* Madagascar.
Magnifica, *Miquel,* Ceylon.
Marginata, *De Vr.,* Ceylon.
Microsporangia, *De Vriese,* Sumatra.
Miqueliana, *De Vriese,* Java.
Muricata, *Presl,* Borneo.
Pallescens, *De Vriese,* Sumatra.
Plagiocarpa, *De Vriese,* Ceylon.
Polysporangia, *De Vr.,* Ceylon.
Presliana, *De Vriese,* Java.
Pruinosa, *Kunze,* Java.
Punctata, *De Vriese,* Ceylon.
Repandula, *De Vriese,* India.
Salicifolia, *De Vriese,* India.
Similis, *Presl,* Java.
Suboppositifolia, *De Vr.,* Ceylon.
Sylhetensis, *De Vriese,* India.
Teysmanniana, *De Vriese,* Java.
Uncinata, *De Vriese,* Amboyna.
Wallichiana, *Presl,* India.
Wightiana, *De Vriese,* India.
Willinkii, *Miquel,* Java.

Mr. Moore thinks that when the species are better known many of the above may be referred to *A. evecta* and *A. crassipes.*



ANGIOPTERIS EVECTA.—PORTION OF FROND.

LXXV—Vol. 8.



Pinnule of mature Frond—under side.

ANGIOPTERIS EVECTA.

HOFFMANN. SWARTZ. SCHKUHR. J. SMITH. MOORE.
POIRET. KAULFUSS. PRESL. DESVAUX. GAUDICHAUD.
KUNZE. BRACKENRIDGE. DE VRIESE. SPRENGEL.
(*Not of* HOOKER AND ARNOTT. MORITZ, WILLDENOW,
DREGE, *or* HOOKER AND GREVILLE.)

PLATE LXXV. VOL. VIII.

Polypodium evectum,	FORSTER.
Danæa evecta,	SPRENGEL.

Angiopteris—From *aggrion*—a vessel, and *pteris*—a wing.
Evecta—Exalted.

A VERY handsome gigantic-fronded Fern.

A stove species.

Native of Ceylon and the Islands of the Pacific Ocean, Society Isles, and Feejee.

Fronds erect and subarboreous, each rising from between two fleshy stipulæform appendages, the base of the stipes being clavate; bipinnate; pinnules lanceolate-acuminate, the apices serrated, and articulated with the rachis.

Veins, part simple, but mostly forked, conspicuous, being paler in colour than the frond.

Sporangia subterminal, biserial, sessile, free, and opening by a slit on the inner side.

Sori oblong and laterally contiguous, forming a broad submarginal row.

Length of frond from ten to eighteen feet; colour bright green.

Rhizoma fleshy.

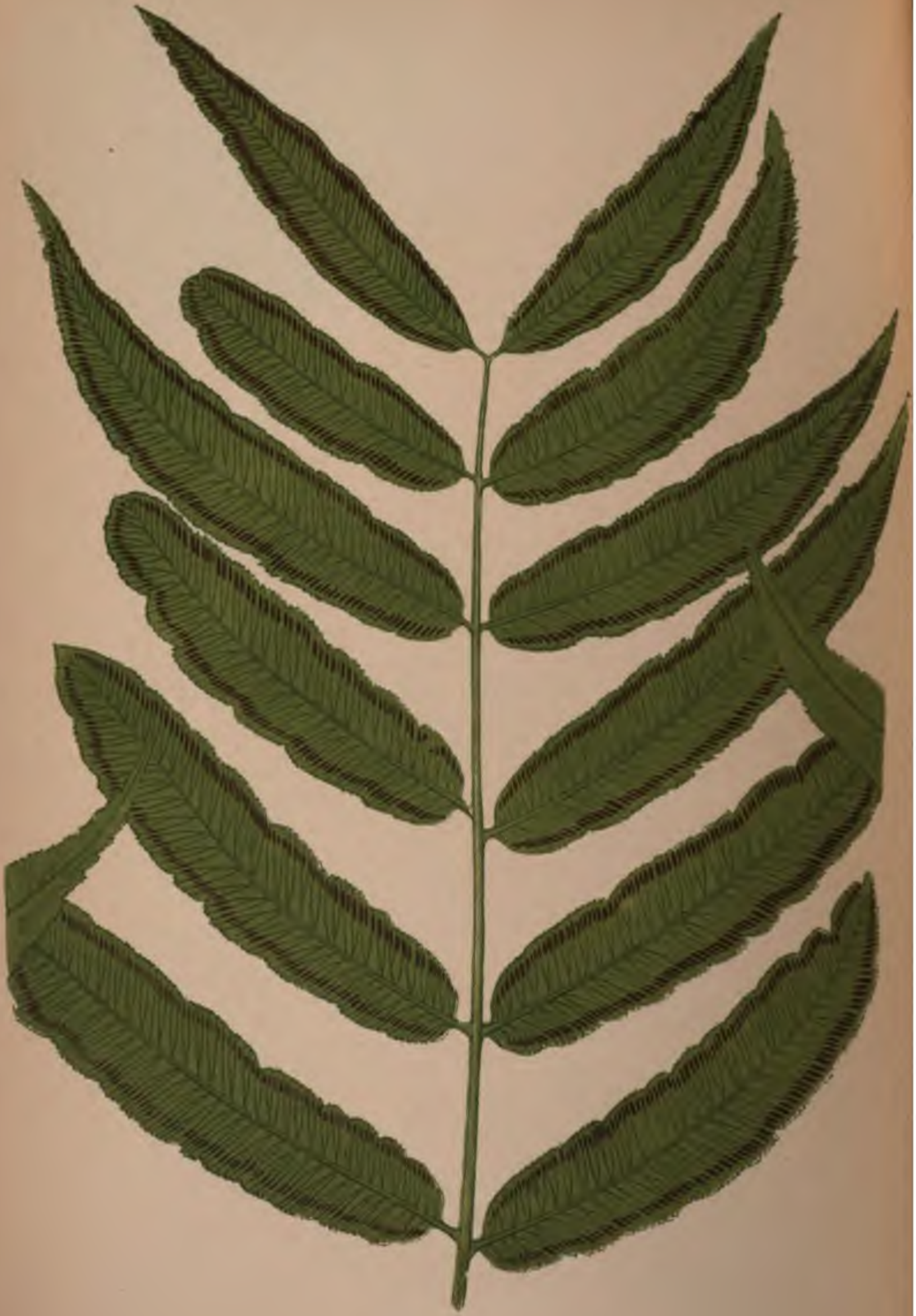
Rachis and stipes hirsute, especially near the base.

Pinnæ sub-opposite, without a terminal pinna.

For a plant my thanks are due to Mr. J. Smith, Curator of the Royal Gardens, Kew; and for fronds to M. Schott, Director of the Imperial Gardens of Schonbrünn, near Vienna, and Mr. Veitch, of the Exotic Nursery, Chelsea.

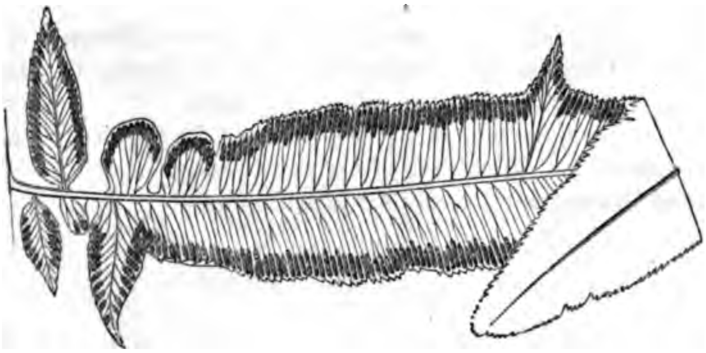
It may be procured of Messrs. Veitch, of Chelsea; Sim, of Foot's Cray; Jackson, of Kingston; Kennedy, of Covent Garden; Rollisson, of Tooting; E. G. Henderson, of St. John's Wood; and A. Henderson, of Pine-apple Place.

The illustration is from Mr. Veitch's frond.



ANGIOPTERIS TEYSMANNIANA.—PORTION OF FROND.

LXXVI.—VOL. 3.



Fertile pinnule—under side.

ANGIOPTERIS TEYSMANNIANA.

De Vriese. J. Smith. Moore. Kunze.

PLATE LXXVI. VOL. VIII.

Angiopteris—From *aggrion*—a vessel, and *pteris*—a wing.
Teysmanniana—............?

Another very handsome, large-fronded species.

An evergreen stove Fern.

Native of Java.

Fronds bipinnate and lanceolate; pinnæ alternate, thick at the base; pinnules articulated.

Stipes much swollen at the base, covered when young with soft, brown, chaffy scales.

Pinnules half an inch wide and from three to six inches long.

Veins forked; venules parallel and free.

Rhizoma fleshy.

Sori dorsal, involucrate, sessile, oblong in form, in two contiguous rows.

Length of frond from six to twenty feet; colour brilliant light green.

For a plant my thanks are due to M. Schott, Director of the Imperial Gardens of Schonbrünn; and for fronds to Mr. J. Smith, Curator of the Royal Gardens, Kew.

It may be procured of Messrs. Sim, of Foot's Cray; Veitch, of Chelsea; and Kennedy, of Covent Garden.

The illustration is from Mr. Smith's frond.

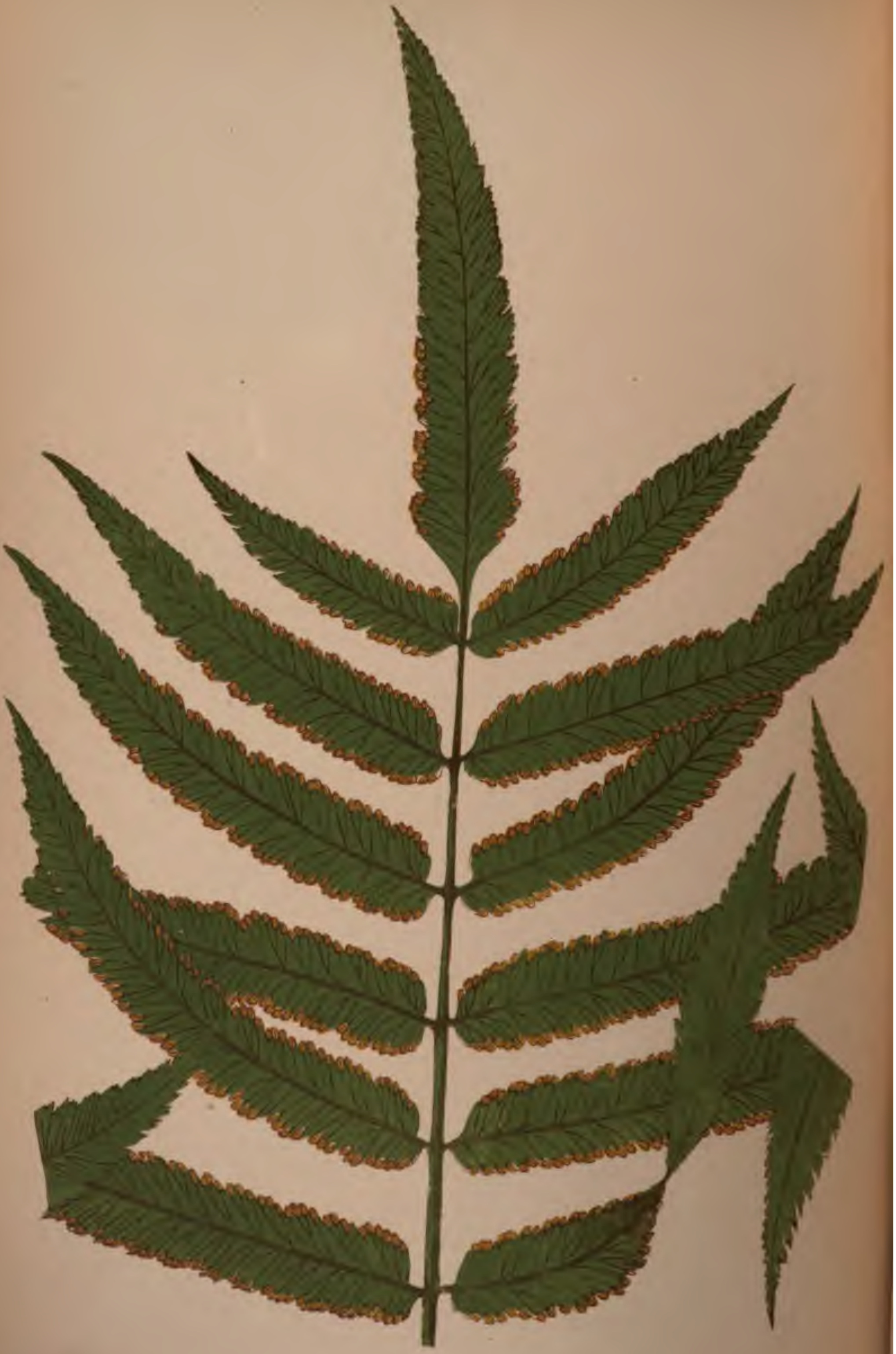
GENUS II.

MARATTIA. SMITH.

FRONDS erect, subarboreous, the fronds rising from between two fleshy appendages, (which occasionally have the character of abnormal fronds.) Fronds bi-tripinnate. Veins simple or forked, and free. Sori biserial.

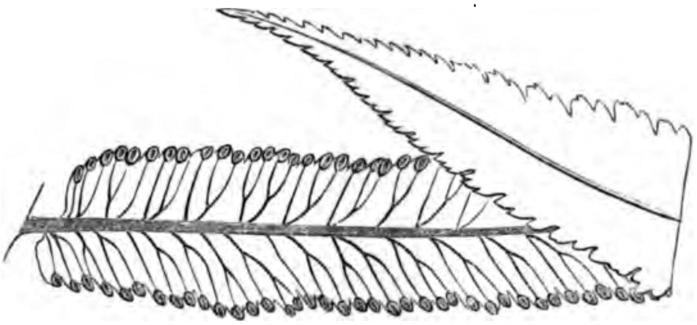
Mr. Smith, in the "Ferns of Kew," enumerates—

M. alata, *J. Smith*, West Indies.
M. elegans, *Endlicher*, New Zealand.
M. cicutæfolia, *Kaulfuss*, Brazil.
M. ascensionis, *J. Smith*. Island of Ascension.



MARATTIA LAXA.—PORTION OF FROND.

LXXVII.—VOL. 2.



Fertile pinnule—under side.

MARATTIA LAXA.

KUNZE. LIEBMANN. METTENIUS.

PLATE LXXVII. VOL. VIII.

Gymnotheca laxa, PRESL. DE VRIESE. MOORE.

Marattia—Named in honour of J. F. Maratti, a Tuscan botanist.
Laxa—Large.

A RATHER coarse-growing, lax-habited Fern, distinct in appearance from the other *Marattiaceous* Ferns introduced to cultivation.

An evergreen stove or warm greenhouse species.

Native of the temperate regions of Mexico.

Introduced to English gardens about six or eight years since, and a few years earlier to continental gardens.

Stem forming a thick, short, and fleshy trunk or root-stalk, as in the other species; which is invested with the stipule-like scales at the base of the stipites.

Fronds large, stipitate, the lamina about three feet in length, bipinnate, deltoid-ovate in outline, somewhat fleshy in texture, of a dull dark green, paler beneath. The pinnæ are opposite, oblong, and from twelve to eighteen inches long. The pinnules are broadly lance-shaped, acuminate, the lower ones cordate at the base; the fertile ones crenate or sinuate at the edges, and the sterile ones irregularly serrated: they are all remotely veined.

Sori placed near the ends of the veins in a line along each edge of the pinnules, the spore-cases shortly ellipsoid, bilobed, the lobes at length spreading.

Stipites from twelve to twenty-four inches long, and scaly in the lower part.

A rare Fern, of considerable bulk, interesting in a collection, but hardly to be placed among the more elegant and effective species.

For fronds I am indebted to Mr. Smith, Curator of the Royal Gardens, Kew.

It can be procured of Messrs. Veitch, of Chelsea; Rollisson, of Tooting; and Sim, of Foot's Cray.

The illustration is from Mr. Smith's frond.

ADDENDA TO THE EIGHT VOLUMES.

THE following synonymes have not been included with the different species in the several volumes, and are therefore appended here. The page added at the commencement of each addition represents the species described on that page; thus, vol. i., p. 3, will have reference to *Gymnogramma chrysophylla*.

In several instances additional habitats have been included.

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97 Polypodium buxifolium, *of Gardens.*
99 Phegopteris lachnopoda, *J. Sm.*
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109 Goniophlebium subauriculatum, *J. Smith.*
109 pleopeltis, *Fee.*
109 Polypodium reinwardtii, *Kunze.*
109 metamorphum, *Kunze.*
115 Phegopteris alpestris, *J. Smith.*
119 Goniophlebium cuspidatum, *J. Smith, Presl.*
119 Polypodium cuspidatum, *Blume,* (*not Don.)*
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119 colpothrix, *Kunze.*
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121 Polypodium schkuhrii, *Raddi, J. Smith.*

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125 sessile, *Fee.*
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145 Hymenolepis spicata, *Moore.*
155 Ceratopteris thalictroides, *Moore.*

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PAGE.
3 Adiantum concinnum, *Sprengel, Desvaux, Kunze, Mettenius, Fee.*
5 caudatum, *J. Smith, Kunze, Brackenridge,* (not of *Bory.*)
5 hirsutum, *Sprengel, Presl, Desvaux, Wallich, J. Smith, Kunze.*

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5 Adiantum vestitum, *Fee.*
5 proliferum, *Roxburgh.*
5 caudatum, var. ciliatum, *Blume and Moore,* a form having a large geographical range, and being found in India, China, Java, Ceylon, Cape de Verd Isles, etc.

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7	Adiantum reniforme, *Desvaux, Presl, Bracken., Mettenius, Loddiges.*
7	var. asarifolium, *Moore.* (A. asarifolium, *Willdenow, Bory, Desvaux, Hooker, Fee.* A. reniforme, *Bory, Wallich.* A. orientale, *Bory, Willdenow.*)
9	trapeziforme, *Sprengel, Desvaux, Mettenius.*
9	var. pentadactylon, *Moore.* (A. pentadactylon, *Langsdorff and Fischer.*)
9	var. plumieri, *Hooker.* (A. trapezoides, *Fee.*)
9	var. oblongatum, *Hooker.* (Not the A. trapeziforme of *Bory, Forster, Schkuhr,* or *Hudson.*)
11	lucidum, *Sprengel, Desvaux, Presl,* (not of *Loddiges.*)
11	asperum, *Desvaux, Kunze.*
11	Pteris lucida? *Cavanilles.*
11	aspera, *Poiret, Willdenow, Swartz, Sprengel.*
11	Adiantum lucidum, var. majus, *Hooker.* Cayenne.
11	var. anomalum, *Hooker.* Caripe.
13	macrophyllum, *Sprengel, Desvaux, Martens & Galleotti, Schlechtendal, Mettenius.* (Not the A. microphyllum of *Kaulfuss.*)
15	cuneatum, *Desvaux, Gaudichaud, Arnott, Brackenridge, Mettenius,* (not of *Forster and Schlechtendal.*)
15	raddianum, *Presl.*
15	pendulinum, *Hooker and Greville.*
15	peltatum, *German Gardens.*
15	tenerum, *Of some Gardens.*
17	curvatum, *Sprengel, Metten.*
19	affine, *Mettenius,* (not of *Willdenow, Forster, Schkuhr,* nor *Cunningham.*)

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19	Adiantum setulosum, *Fee.*
21	assimile, *Schrader, Desvaux. Gaudichaud, Brackenridge,* (not of *Link.*)
21	æthiopicum, *Swartz, Presl, Willdenow, Sprengel, Kunze, Desvaux, Kaulfuss, Hooker, Schlechtendal.*
21	trigonum, *Fee, Labillardiere, Link.*
21	pellucidum, *Martens and Galleotti.*
21	thalictroides, *Schlechtendal, Willdenow, Kunze, Presl, Fee.*
21	tenerum, *Link,* (not of *Fee, Swartz, Willdenow, Sprengel, Desvaux, Kunze, Mettenius, Presl, Moore, Hooker, J. Smith, Roxburgh, Martens,* or *Galleotti.*)
21	cycloides, *Zenker.*
21	rotundifolium, *Colenso,* (not of *Kunze* nor *Desvaux.*)
21	trisinuatum, *Colenso.* (Found also in South Africa, India, Abyssinia, Mauritius, Japan, Madagascar, South America, Chili, Quito, Peru, Columbia, Venezuela, Caraccas, Brazil, Mexico, Guatemala, and Galapagos.)
23	lunulatum, *Desvaux, Blume, Kaulfuss, Don, Brackenridge, Kunze, J. Smith.*
23	arcuatum, *Willdenow, Desvaux.*
23	dolabriforme, *Hooker, Fee, Sprengel.*
23	pteropus, *R. Brown.*
23	Pteris lunulata, *Roxburgh.*
25	Adiantum pubescens, *Sprengel, Brackenridge,* (not of *Poiret* nor *Raddi.*)
25	hispidulum, *Willdenow, R. Brown, Desvaux, Endlicher, Brackenridge, Moore and Houlston, Mettenius.*

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25 Adiantum nervosum, *Swartz, Desvaux, Willdenow.*

25 scabrum, *Wallich,* (not of *Willdenow, Kunze, Kaulfuss,* or *Moore.*)

25 flabellulatum, *Wallich,* (not of *Swartz, Willdenow, Presl, Sprengel, Desvaux, Kunze,* or *Fee*)

25 hispidum, var. glabrum, *Hooker.*

25 var. tenellum, *Moore.*

25 tenellum, *Moore, Veitch.* (Found also at Java, Ceylon, Amboyna, India, & Mauritius.)

27 tenerum, *Sprengel, Desvaux, Kunze, Klotzsch, Mettenius,* (not of *Martens and Galleotti* and *Roxburgh.*)

29 formosum, *Wickstr, Desvaux, Sprengel, Brackenridge, Mettenius,* (not of *Cunningham and Richard.*)

29 busbyanum, *Colenso.*

31 affine, *Sprengel, Fee, Kunze, Desvaux, Brackenridge, J. Smith,* (not of *Martens and Galleotti.*)

31 trapeziforme, *Schkuhr, Forster,* (not of *Swartz, Presl, Willdenow, Sprengel, Kunze, Desvaux, Link, Martens and Galleotti, Hooker, Fee,* or *Mettenius.*)

31 exile, *Colenso.*

31 longissimum, *Colenso.*

31 platyphyllum, *Colenso,* not of *Sprengel, Presl, Kunze, Hooker, Moore,* or *Fee.*)

33 hispidulum, *Willdenow, Desvaux, Endlicher, Brackenridge, Mettenius.* Mr. Moore, considering that A. hispidulum and A. pubescens are forms of the same Fern, enumerates as synonymes the following:—A. pubescens of *Schkuhr, Willdenow, Presl, Sprengel, Link, Brackenridge, Kunze,* (not of *Poiret* or *Raddi.*) A. pedatum of *Forster,* (not of *Willdenow, Swartz, Schkuhr, Sprengel, Desvaux, Kaulfuss, Link, Ledebour, Smith, Presl, Fee, Kunze, Hooker, A. Gray, Brackenridge, Mettenius,* or *Raddi.*)

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33 nervosum, *Swartz, Desvaux, Willdenow.*

33 plicatum, *Kaulfuss.*

33 scabrum, *Wallich,* (not of *Sprengel, Presl, Kunze, Fee, Brackenridge, Willdenow,* or *Hooker.*)

33 flabellulatum, *Wallich,* (not of *Swartz, Willdenow, Sprengel, Desvaux, Presl, Kunze, Hooker, Moore,* and *Fee.*)

33 · var. glabrum, *Hooker.*

33 var. tenellum, of *Moore,* is the form here figured.

35 obliquum, *Desvaux, Presl, Kunze, Fee,* (not of *Kaulfuss,* or *Schlechtendal.*)

34 juglandifolium, *Willdenow.*

35 *Not* Adiantum lucidum of *Swartz,* or Pteris lucida of *Cavanilles.*

37 pedatum, *Desvaux, Link, Ledebour, A. Gray, Brackenridge, Mettenius,* (not of *Forster* or *Raddi.*)

37 * var. alenticum, *Ruprecht.*

37 americanum, *Corn.*

39 capillus-veneris, *Desvaux, Koch, Ledebour, J. Smith, Brackenridge, Mettenius.*

39 moritzianum, *Fee.*

Mr. Moore describes three other forms, namely,—Var. dissectum, *Galleotti,* var. latissimum, *Kunze,* var. emarginatum, *Desvaux,* (the A.

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	emarginatum of *Bory*, *Presl*, *Sprengel*, *Hooker*, and *Fee*.
45	pulverulentum, *Schkuhr*, *Moore*, *Sprengel*, *Desvaux*, *Raddi*, *Kaulfuss*, *Klotzsch*, *Presl*, *Kunze*, *Fee*.
45	kunzeanum, (not of *Klotz.*)
45	berterianum, *Balbis*, *Kaulf.*
45	rigidum, (not of *Presl* nor *Link.*)
47	villosum, *Sprengel*, *Moore*, *Desvaux*, *Presl*, *Martens and Galleotti*, *Hooker*, *Kunze*, and *Fee*.
47	lanceolatum, *Fee*.
47	acuminatum, *Desvaux*, *Spren.*
47	var. falcatum, (A. falcatum of *Swartz*, *Willdenow*, *Spren.*, *Desvaux*, *Hooker*, and *Fee*. (Found also in West Indies, Jamaica, Trinidad, Cuba, St. Vincent, Guiana, Surinam, Mexico, and New Grenada.)
51	intermedium, *Spren.*, *Moore*.
51	ternatum, *Brackenridge*.
53	cultratum, *Moore*.
55	cristatum, *Sprengel*, *Desvaux*, *Kunze*, in part.
55	striatum, *Willdenow*, *Spren.*, *Desvaux*, *Presl*, (not of *Hooker*, *Schkuhr*, *Sieber*, or *Swartz*.)
63	Onychium japonicum of *Kunze*, *Moore*, and *J. Smith*.)
63	lucidum, (not of *Sprengel* nor *Hooker*.)
63	capense, *Kaulfuss*.
63	Trichomanes japonicum, *Thunberg*. Native of Japan.
67	Pellæa rotundifolia, *Hooker*. (See also pages 155 to 162, vol. iv., for other synonymes of the various species of Platyloma and Pteris.)
69	Pteris ternifolia, *Moore*.
69	Pellæa ternifolia, *Hooker*.
71	Pellæa flexuosa, *Hooker*.

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73	Pellæa calomelanos, *Hooker*.
73	Pteris calomelanos, *Hooker*.
75	geraniifolia, *Moore*.
77	cordata, *Cavanilles*, *Swartz*.
85	Cheilanthes intramarginalis, *Hooker*, *Moore*.
85	prionopteris, *A. Braun*.
85	Pteris fallax, *Martens and Galleotti*.
87	hastata, *Moore*.
89	Pellæa hastata, var. macrophylla, *Hooker*.
87	Cheilanthes hastata, var. macrophylla, *Kunze*.
87	macrophylla, *Kunze*.
89	Pteris hastata, var. macrophylla, *Mettenius*, *Moore*.
93	Allosorus crispus, *Mettenius*, *J. Smith*, *Hooker*, *Ledebour*, *Koch*.
93	minutus, *Turcz*.
93	Pteris minuta, *Turcz*.
93	Cryptogramme crispa, *Hooker*, *J. Smith*.
93	acrostichoides, *Brown*.
93	brunoniana, *Wallich*, *Hooker and Greville*, *Mettenius*.
93	Gymnogramme brunoniana, *Presl*.
93	Phorolobus brunonianus, *Fee*.
93	Blechnum crispum, *Hartmann*.
93	Riedlea crispa, *Mirbel*.
93	Stegania crispa, *R. Brown*.
93	Struthiopteris crispa, *Wallroth*.
99	Pteris pedata, *Hooker*.
99	palmata, *Willdenow*.
99	collina, *Raddi*.
99	varians, *Raddi*.
99	mysurensis, *Wallich*.
99	polytoma, *Kunze*.
99	Cassebeera pedata, *J. Smith*.
99	Litobrochia pedata, *Moore*.
101	Pteris sagittifolia, *Hooker*.
101	hasta, *Raddi*, *Hooker*.
101	Litobrochia sagittæfolia, *Moore*.
102	Litobrochia palmata, *Moore*.

Sir W. J. Hooker makes this

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Fern a form of Doryopteris pedata, under the name of Pteris pedata.

105 collina, *Moore.* Sir W. J. Hooker places this Fern also as a form of D. pedata.

113 Pteris serrulata, *Hooker, Swartz,* (not of *Forskal.*)

115 arguta of *Aiton,* and Pteris flabellata of *Thunberg,* are evidently forms of the same Fern.

115 serrulata, *Forskal.*

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115 Pteris arguta, *Swartz, Hooker, Agardh, Webb, Schl., Seuber.*

115 flabellata, *Thunberg, Hooker, Swartz, Willdenow, Agardh,* (not of *Schkuhr.*)

115 elegans, *Jacquin.*

115 lata, *Link.*

115 ascensionis, *Swartz, Schkuhr, Willdenow.*

115 Lonchitis ascensionis, *Forster.* The illustration is that of the form "flabellata."

117 Pteris longifolia, *Hooker.*

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15 Pteris aspericaulis, *Moore.*

17 semipinnata, *Moore, Hooker.*

19 scaberula, *Moore.*

25 Hypolepis tenuifolia, *Bernhardi, Moore, J. Smith, Hooker, Presl.*

25 repens, of *Gardens* (not of *Hooker, Presl, Link, Moore, Fee, J. Smith, Bauer, Sieber,* or *Plumier.*)

25 dicksonioides, of *Gardens.*

25 Lonchitis tenuifolia, *Forster.*

25 Cheilanthes arborescens, *Swartz.*

25 dissecta, *Hooker & Arnott.*

25 pellucida, *Colenso.* The above Fern, of which a coloured plate has been given, is distinct from the Hypolepis repens of *J. Smith, Hooker, Moore,* etc., (which is the Lonchitis repens of *Linnæus,* and Cheilanthes repens of *Kaulfuss.*)

31 argentea, *Moore.*

37 chlorophylla, *Moore.*

43 fragrans, *Moore.*

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47 Cheilanthes tenuifolia, *Moore.*

49 elegans, *Moore.*

53 sieberi, *Moore.*

61 multifida, *Moore.*

63 cuneata, *Moore.*

67 preissiana, *Moore.*

71 Doodia aspera, *A. Cunningham.*

71 Woodwardia aspera, *Mettenius.*

73 Doodia caudata, *Hooker.*

73 Woodwardia caudata, *Swartz, Cavanilles, Willd., Mettenius.*

75 Doodia media, *Hooker.*

75 kunthiana, *Gaudichaud.*

75 Woodwardia lunulata, *Mettenius.*

77 Doodia blechnoides, *Hooker.*

81 Blechnum trifoliatum, *Kaulfuss.*

83 hastatum, *Kunze, Hooker & Arnott.*

83 auriculatum, *Cavanilles, Swartz, Willdenow.*

83 Lomaria hastata, *Mettenius, Philippi.*

83 blechnoides, *Bory.*

83 pubescens, *Kunze, Hooker.*

83 Mesothema remotum, *Presl.*

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83 Blechnum remotum, *Presl.*
85 polypodioides, *Mettenius, Hooker, Moore.*
85 scabrum, *Liebmann.*
85 Asplenium blechnoides, *Swartz.*
87 Blechnum triangulare, *Hooker, Mettenius.*
89 gracile, *Hooker, Martens & Galleotti, Klotzsch, Bracken.* (Found also in Peru and Mexico.)
91 intermedium, *Moore, Hooker, Mettenius.*
91 longifolium, (not of *Hooker* or *Fee.*)
93 brasiliense, *Moore, Hooker, Mettenius.*
93 var. corcovadense, *Moore.*
95 occidentale, *Swartz, Willd., Mettenius.*
95 cartilagineum, *Schkuhr.*
95 pectinatum, *Hooker.*
95 glandulosum, *Link, Presl, Kaulfuss, Wallich, Kunze.*
95 pohlianum, *Presl.*
95 fasciculatum, (?) *Presl.*
95 cognatum, *Presl.*
95 distans, *Presl.*
95 meridionale, *Presl.*
95 Lomaria campylotis, *Kunze, Klotzsch.*
96 Mesothema campylotis, *Presl.*
97 Blechnum orientale, *Hooker, Swartz, Willdenow, Blume, Mettenius.*
97 salicifolium, *Kaulfuss.*
97 imbricatum, *Blume.*
97 Blechnopsis cumingiana, *Presl.*
97 latifolia, *Presl.*
97 pyrophyllum, *Blume.*
97 orientalis, *Presl.*
97 elongata, *Presl.*
97 stenophylla, *Presl.*
97 pyrophylla, *Presl.*
97 agrostidifolium, *Goldm.*
101 Blechnum cartilagineum, *Brown, Hooker, Willdenow, Sieber.*

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101 Blechnopsis cartilagineum, *Presl.*
103 Blechnum serrulatum, *Hooker, Michaux, Swartz, Willdenow, Klotzsch, Mettenius.*
103 angustatum, *Schrader.*
103 Blechnopsis serrulata, *Presl.*
107 Woodwardia auriculata, *Blume.*
107 chamissoi, *Brackenridge.* Also found in Spain, (I found it at Loscorrales, amongst damp rocks,) Portugal, Italy, Ischia, Java, and Guatemala.
109 Woodwardia virginica, *Hooker.*
109 thelypteroides, *Ph.*
111 areolata, *Moore, Hooker.*
111 angustifolia, *Gray, Metten.*
121 Brainea insignis, *Moore.*
125 Lomaria patersoni, *Hooker, Sprengel, Schkuhr.*
125 Blechnum patersoni, *Mettenius.*
129 Lomaria alpina, *Brackenridge.*
129 polypodioides, *Gaudichaud.*
129 australis, *Kunze, Gay.*
129 microphylla, *Goldm.*
129 linearis, *Colenso.*
129 Blechnum alpinum, *Mettenius.*
129 Lomaria gayana, *Fee.*
129 sellowiana, *Presl.*
129 pœppigianum, *Sturm.*
129 trichomanoides, *Desvaux.*
129 Acrostichum polypodioides, *Du Petit-Thouars.*
129 Polypodium pinna-marina, *Poiret.*
131 Lomaria spicant, *Hooker, Pappe and Rawson.*
135 punctulata, *Hooker, Pappe and Rawson, Moore.*
135 densa, *Sieber.*
135 auriculata, *Blume.*
135 Blechnum punctulatum, *Willd., Mettenius.*
135 tricuspe, *Kaulfuss.*
135 rigidum, *Ecklon.*
135 atherstoni, (?) *Pappe and Rawson.*
135 Onychium krebsii, *Kunze.*

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135 Scolopendrium krebsii, *Kunze, Fee, J. Smith, Mettenius, Pappe and Rawson.*

Sir W. J. Hooker considers that the S. krebsii of *Kunze* is an abnormal form of Lomaria punctulata. I have therefore included the synonymes Scolopendrium krebsii of *Kunze,* etc., Onychium krebsii of *Kunze,* and Blechnum atherstoni (?) of *Pappe and Rawson,* which will really belong to the S. krebsii, vol. v.

137 Blechnum gilliesii, *Moore.*

Sir W. J. Hooker, after profound research on the species Lomaria procera, has come to the conclusion that the L. gilliesii, L. procera, and L. capensis of this work are forms of the same species. I therefore include under the head Lomaria procera, these additional synonymes for these Ferns.

137 Lomaria procera, *Cunningham, Brackenridge.*
137 latifolia, *Colenso.*
137 capensis, *Rawson & Pappe.*
137 chilensis, *Kaulfuss, Hooker, Gay.*
137 spectablis, *Liebmann, Rich.*
137 lineata, *Willdenow.*
137 striata, *Willdenow.*
137 Blechnum capense, *Schlechten.*
137 chilense, *Mettenius, Sturm.*
137 Onoclea procera, *Sprengel.*

For a detailed description of this Fern the reader is referred to page 24, vol. iii., of Sir W. J. Hooker's "Species Filicum." Let it suffice to mention that Sir William Hooker includes under Lomaria procera, the following:

137 Steganía minor, *Brown.*

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137 Stegania exigua, *Colenso.*
137 Lomaria imbricata, *Colenso.* New Zealand.
137 capensis, of *Authors.* Cape of Good Hope.
137 vestita, *Blume,* Malay Islands.
137 lineata, of *Authors.*
137 striata, of *Authors.* West Indies.
137 longifolia, *Schlechtendal.*
137 danæacea, *Kunze.*
137 ensiformis, (?)
137 falciformis, *Liebmann.*
137 spectabilis, *Liebmann.*
137 schiediana, *Presl.*
137 arborescens, *Klotzsch and Karsten.*
137 stenophylla, *Klotzsch.*
137 ornifolia, *Presl.*
137 brasiliensis, *Raddi.*
137 chilensis, *Kaulfuss.*
137 gilliesii, *Hooker.*

Mexico, Guatemala, Peru, Columbia, Caraccas, Brazil, Venezuela, Chili, Juan Fernandez, etc.

141 Lomaria discolor, *Hooker, Moore.*
141 Stegania discolor, *A. Richard.*
141 falcata, *Brown.*
141 nuda, *Brown.*
141 Onoclea nuda, *Labillardiere.*
141 Lomaria lanceolata, *Hooker.* Native of New Zealand.
143 Blechnum australe, *Hooker, Moore, Schkuhr, Willdenow, Kaulfuss, Mettenius.*
143 Lomaria pumila, *Pappe and Rawson.*
143 Mesothema australe, *Presl.*
147 Lomaria lanceolata, *A. Cunning.*
147 obtusata, *Labillardiere.*
149 magellanica, *Hooker, Gay, Brackenridge, Bory.*
149 Blechnum magellanicum, *Sturm, Mettenius.*

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149	Lomaria boryana, *Pappe and Rawson.*
149	coriacea, *Schrader,* (not of *Kunze.*)
149	cinnamomea, *Kaulfuss.*
149	ryani, *Kaulfuss, Kunze.*
149	rufa, *Sprengel.*
149	cycadifolia, *Colla.*
149	Blechnum cycadifolium, *Sturm.*
149	Pteris palmæformis, *Thouars.*
149	Lomaria lanuginosa, *Kunze.*
149	schottii, *Colla.*
149	Ceterach magellanica, *Pernetty.*
151	Lomara l'herminieri, *Hooker.*
151	Blechnum l'herminieri, *Metten.*

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3	Asplenium monanthemum, *Hooker, Webb, Brackenridge, Mettenius, Sprengel, Desvaux, Presl, Klotzsch, Liebmann, Pappe and Rawson, Sturm.*
3	inæquilaterale, *Martens and Galleotti.*
3	leptophyllum, *Fee.*
3	blandulum, *Fee.*
3	dentex, *Buchanan.*
3	galleotti, *Fee.*
3	menziesii, *Mettenius, Hooker and Greville.*
3	intermedium, *Moritz.*
3	macrocarpum, *Desvaux, Mettenius.*
3	obtusissimum, *Fee.*
3	unilaterale, var., *Desvaux.*
5	flabellifolium, *Hooker, Willdenow, Mettenius.*
7	ebeneum, *Hooker, Swartz, Willdenow, A. Gray, Pappe and Rawson, Mettenius.*
7	trichomanoides, *Michaux.*
7	parvulum, *Martens & Galle.*
7	resiliens, *Kunze.*
7	Acrostichum platyneuron, *Linn.*
9	Asplenium septentrionale, *Koch, Deakin, Ledebour, Desvaux, Mettenius, Willdenow.*
9	Acrostichum laciniatum, *Gilib.*
9	Pteris septentrionalis, *Smith.*
9	Blechnum septentrionale, *Wallroth.*
9	Asplenium bifurcatum, *Opiz.*
9	furcatum, *Jacquemenot.*
9	Belvisia septentrionalis, *Mirbel.*
11	Asplenium germanicum, *Presl, Deakin, Lamarck, Sprengel, Desvaux, Rupr., Sturm.*
11	alternifolium, *Wahl, Fries,* (not of *Mettenius.*)
11	breynii, *Fries, Ledebour, Koch, Mettenius.*
11	Scolopendrium alternifolium, *Roth.*
11	Phyllitis heterophylla, *Mœnch.*
11	Tarachia germanica, *Presl.*
11	Asplenium murale, var., *Bernh.*
11	ruta-muraria, var., *Bernh.*
15	Asplenium lucidum, *Hooker, Swartz, Willdenow, Poiret, Sprengel, Desvaux, Metten.*
15	subcaudatum, *Cavanilles.*
15	lyalli, *Moore.*
15	scleroprium, *Brackenridge, Humboldt.*
15	lucidum, var. paucifolium, *Hooker.*
15	var. lyallii, *Hooker.*
15	obliquum, *Forster, Schkuhr, Willdenow, Poiret, Sprengel,*

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Desvaux, Richard, Presl, Kunze, Fee, Wallich, in part. New Zealand, Norfolk Island, and the Pacific Islands.
17 veitchianum, *Moore.*
19 obtusatum, *Moore, Hooker, Willdenow, Brown, Mettenius, Labillardiere,* (not of *Bory.*)
19 decurrens, *Willdenow.*
19 sarmentosum, *Willdenow, Poiret, Presl, Fee.*
19 chondrophyllum, *Berthelot, Klotzsch, Sturm.*
19 consimile, *Gay, Remy.*
19 obtusatum, var. obliquum. *Hooker.*
19 obliquum, *Forster, Schkuhr, Mettenius, Labillardiere.*
19 saxosum, *Colenso.*
19 sphenoides, *Kunze.*
19 apicidentatum, *Homb.*
19 lucidum, var. obliquum, *Moore.*
19 obtusatum, var. difforme, *Hooker.*
19 difforme, *Brown, Endlicher, Mettenius.*
21 hemionitis, *Moore, J. Smith, Hooker, Linnæus,* (not of *Cavanilles, Lamarck,* or *Swartz.*)
21 palmatum, *Webb, Desvaux, Cavanilles, Loddiges, Hevfl., Brackenridge.*
21 Tarachia palmata, *Presl.*
23 Asplenium præmorsum, *Moore, Sprengel, Klotzsch, Desvaux, Willdenow,* (not of *Blume* or *Pappe and Rawson.*)
23 canariense, *Poiret, Presl, Sprengel, J. Smith, Hooker, Fee, Webb and Berthelot, Brackenridge.*
23 cicutarium, *Roxburgh, Mett.,* (not of other authors.)
23 furcatum, *Schlechtendal, Wallich.*

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23 Asplenium geminaria, *Bory, Desvaux.*
23 hirsutum, *Heyne, Wallich.*
23 luridum, *Brouss.*
23 maderene, *Penny, Kunze.*
23 nigricans, *Kunze, Presl, Fee.*
23 obtusilobum, *Desvaux.*
23 Tarachia geminaria, *Presl.*
23 nigricans, *Presl.*
23 Asplenium præmorsum, var. furcatum, *Moore.*
23 furcatum, *Swartz, Sprengel, Willdenow, Desvaux, Blume, Link, Kunze, Schlechtendal, Presl, Martens and Galleotti, Kaulfuss, Liebmann, Fee, Brackenridge, Pappe and Rawson, Mettenius.*
23 cuspidatum, *Solander.*
23 dentex, *Solander.*
23 fragrans, *Schkuhr.*
23 strictum, *Bory.*
23 Acrostichum filare, *Forskal, Swartz, Mettenius, Poiret.*
23 var. validum, *Moore.*
23 var. latum, *Moore.*
23 Tarachia browniana, *Presl.*
23 furcata, *Presl.*
23 Asplenium adiantoides, *Lamarck.*
23 cuneatum, *Wight.*
23 falsum, *Retzius.*
23 furcatum, *Schkuhr.*
23 mascareinense, *Desvaux.*
23 mysurense, *Roth, Wallich, Sprengel.*
23 tripartitum, *Blume.*
23 Tarachia furcata, var., *Presl.*
27 Asplenium serra, *Willdenow, Hooker, Mettenius, Poiret, Sprengel, Desvaux, Klotzsch, Galleotti, Liebmann.*
27 var. woodwardioides, *Gardner.*
27 pœppigii, *Presl.*
27 insigne, *Liebmann.*
27 woodwardioideum, *Gardner.*

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	Tropical America, Jamaica, Cuba, Guadaloupe, Caraccas, Venezuela, Peru, Dominica, and Mexico.
29	viviparum, *Hooker*, *Hombr.*, *Mettenius.*
29	fœniculaceum, (not of *H. B. K.*)
31	fragrans, *Willdenow*, *Poiret*, *Sprengel*, *Desvaux*, *Presl*, *Moore*, *Kunze*, *Fee*, (not of *Hooker* or *Schkuhr.*)
31	planicaule, *Lowe*, (not of *Wallich*, *Moore & Houlston*, or *J. Smith.*)
31	truncatum, (cancelled.)
31	mexicanum, (cancelled.)
	West Indies—Jamaica, Cuba, Brazil, Quito, etc.
33	bulbiferum, *Swartz*, *Poiret*, *Willdenow*, *Richard*, *Hooker*, *Mettenius*, *Brackenridge*, (not of *Bernhardi.*)
35	rhizophorum, *Linnæus*, *Hooker*, *Mettenius.*
35	cirrhatum, *Richard.*
35	karstenianum, *Klotzsch.*
35	mastigophyllum, *Fee.*
35	cyrtopteron, *Kunze*, *Metten.*
35	flabellulatum, *Mettenius*, *Kunze*, *Klotzsch.*
35	rachirhizon, *Raddi.*
35	uniseriale, *Raddi.*
35	amabile, *Liebmann.* (Not Diplazium radicans of *Presl.*)
37	radicans, (not of *Swartz* or *Moore and Houlston.*)
37	rhizophorum, *Willdenow*, *Moore*, *Lamarck*, *Sprengel*, *Desvaux*, *Smith*, *Galleotti*, *Fee.*
37	allœopteron, *Kunze*, *Fee.*
37	cyrtopteron, *Kunze*, *Moore*, *J. Smith*, *Mettenius.* West Indies and South America. Not Asplenium bulbiferum of *Bernhardi*, or Diplazium radicans of *Presl.*

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39	Asplenium brasiliense, *Heward*, *Link*, *Moore*, *Kunze*, *J. Smith*, (not of *Desvaux* or *Swartz.*)
39	auricularium, *Desvaux*, *Fee*, *Presl*, *Klotzsch*, *Kunze.*
39	dimidiatum, (not of authors.)
39	pulchrum, *Wallich.*
39	raddianum, *Gaudichaud.*
39	regulare, *Swartz*, *Sprengel*, *Presl*, *Fee*, *Kunze.*
39	tenerum, *Kunze.*
39	triste, *Kaulfuss.* See also remarks for page 121, Appendix.
39	zamiæfolium, *Willdenow*, *Kunze*, *Loddiges.*
39	caryotoides, *Presl.*
41	tenellum, *Roxburgh*, *Moore*, (not of *Banks and Fee.*)
41	erectum, var., *Hooker.*
41	lunulatum, var., *Mettenius.*
41	pavonicum, *Brackenridge*, *Mettenius.*
41	radicans, *Pritchard.*
	Ascension Island and Sandwich Isles.
45	serratum, *Swartz*, *Lamarck*, *Willdenow*, *Schkuhr*, *Presl*, *Sprengel*, *Desvaux*, *J. Smith*, *Fee*, *Kunze*, *Moore*, *Splitzg.*, *Descourt*, *Mettenius*, *Hooker.*
45	var. crenulatum, (pl. xiv. B.)
45	crenulatum, *Presl*, *Kunze*, *Link*, *Klotzsch*, *Brackenridge*, *J. Smith*, *Moore.*
45	integrum, *Fee.*
45	serratum, *Link*, *Arrabida*, *J. Smith.*
45	schomburgkianum, *Klotzsch*, *Fee.*
49	brachypteron, *Moore.*
49	Darea coarctata, *Bojer.*
51	Asplenium compressum, *Hooker*, *Willdenow*, *Mettenius.*
51	Darea fœcunda, *Fee.*
53	Asplenium dimorphum, *Moore.*
55	appendiculatum, of this work

PAGE.

is named by *Moore* as A. bulbiferum, var. appendiculatum, to which are added as synonymes:—

55 laxum, *Gaudichaud, Hombr., J. Smith.*

55 bulbiferum, var. laxum, *Hooker.*

55 scariosum, *Colenso.*

57 flaccidum, *Bernhardi, Hooker, Brackenridge.*

57 odontites, *R. Brown, Presl, J. Smith, Kunze.*

57 appendiculatum, var. angustifolium, *Müller.*

57 collinum, *Colenso.*

57 heterophyllum, *Richard,* (not of *Presl* or *Zippel.*)

57 Cœnopteris novæ-zeelandiæ, *Sprengel, Schkuhr.*

57 odontites, *Thunberg, Presl, Swartz, Schkuhr, Desvaux, Sprengel.*

57 Darea odontites, *Willdenow, Poiret, Fee, Schlechtendal.*

59 Asplenium cicutarium, *Sprengel, Schlechtendal, Martens and Galleotti, Liebmann, Fee, Klotzsch, Mettenius, Link,* (not of *Kunth* or *Roxburgh.*)

59 confusum, *Kunze.*

59 cristatum, *Lamarck,* (not of *Desvaux, Brackenridge,* or *Wallich.*)

59 dissectum, *Link,* (not of *Brackenridge, Gmelin, Poiret, J. Smith,* or *Nuttall.*)

59 Athyrium hænkeanum, *Presl.*

59 Cænopteris dissecta, *Kunze.*

59 Polypodium geraniifolium, *Poiret.*

West Indies, Trinidad, Cuba, Antigua, Mexico, Columbia, Venezuela, New Grenada, Caraccas, Quito, Peru, Brazil.

61 Asplenium lætum, *Hooker, Willdenow, Mettenius.*

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61 Asplenium schkuhrianum, *Mettenius, Klotzsch.*

61 abscissum, *Willdenow, Klotzsch, Moore.*

61 bidentatum, *Kunze.*

61 virens. *Desvaux.*

61 drepanophyllum, *Kunze.*

63 fontanum, *Mettenius.*

63 halleri, *Link, Ledebour, Koch, Kunze.*

63 Aspidium halleri, *Poiret.*

63 Athyrium fontanum, *Desvaux.*

63 halleri, *Mettenius.*

63 Polypodium fontanum, *Poiret.*

65 Asplenium trichomanes, *Swartz, Lamarck, Michaux, Sadler, Koch, Fries, Ledebour, Link, Wallich, Pappe and Rawson, Kunze, Mettenius, Nyman, Heufl.*

65 adiantum-nigrum, *Lumn.,* (not of other authors.)

65 dichroum, *Kunze, Presl.*

65 elachophyllum, *Muell.*

65 melanocaulon, *Poiret, Link, Kunze, Klotzsch, Martens & Galleotti, Liebmann.*

65 microphyllum, *Tineo.*

65 newmani, *Bolle.*

65 Phyllitis rotundifolia, *Mœnch.*

65 Asplenium harovii, *Godr.*

73 angustifolium, *Hooker, Swz., Willdenow, Gray.*

79 lanceolatum, *Swartz, Poiret, Desvaux, Rupr.,* (not of *Forskal.*)

79 Athyrium lanceolatum, *Heufl.*

79 Tarachia lanceolata, *Presl.*

79 Asplenium lanceolatum, var. elegans, *Hooker.*

79 var. obovatum, *Moore.*

79 obovatum, *Viviani, Sprengel, Link, Gussoni, Hooker and Greville, Kunze.*

79 forsteri, *Sadler.*

79 novum, *Sadler.*

79 Athyrium obovatum, *Fee.*

PAGE.
79 Cystopteris obovata, *Hooker, Presl.*
79 Asplenium lanceolatum, var. microdon, *Moore.*
79 microdon, *Moore.*
79 marinum, var. microdon, *Moore.*
81 ruta-muraria, *Swartz, Fries, Lamarck, Opiz, Sprengel, Desvaux, Link, Ledebour, Koch, Mettenius, Pappe and Rawson,* (not of *Wallich*)
81 matthioli, *Gaspar, Gussoni.*
81 pygmæum, *Linnæus.*
81 Acrostichum ruta-muraria, *Lamarck, Poiret.*
81 Phyllitis ruta-muraria, *Mœnch.*
81 Asplenium leptophyllum, *Schultz.*
81 ruta-muraria, var. elatum, *Moore.*
81 multicaule, *Presl.*
81 var. zoliense, *Moore.*
81 zoliense, *Kitaib, Sadler.*
83 viride, *Schkuhr, Desvaux, Poiret, Fries, Koch, Sturm, Ledebour, Sadler, Nyman, Mettenius.*
83 intermedium, *Presl.*
91 pulchellum, *Moore, Kunze, Gaudichaud, Brackenridge, Mettenius, Hooker,* (not of *Wallich.*)
91 var. otites, *Mettenius,* (the form figured plate xxxi.)
91 otites, *Link, Mettenius, Kunze.*)
91 pulchellum, *Moore and Houlston.*)
91 obtusifolium, *Foreign Gard.*
93 pumilum, *Sprengel, Desvaux, Poiret, Hooker, Mettenius, Presl, Klotzsch, Fee.*
93 heterophyllum, *Mettenius, Presl.*
93 humile, *Sprengel, Desvaux.*
93 hymenophylloides, *Fee.*

PAGE.
93 Asplenium minimum, *Martens and Galleotti.*
93 schimperianum, *Hochst.*
93 tenerrimum, *Hochst.*
93 Tarachia pumila, *Presl.*
99 Asplenium falcatum, *Retzius, Swartz, Willdenow, Brown, Sprengel, Desvaux, Moore, Presl, Wallich, Richard, Kunze, Endlicher, Fee, J. Smith,* (not of *Richard, Martens and Galleotti, Don,* or *Thunberg.*)
99 cultratum, *Gaudichaud,* (not of *Sieber.*)
99 cultrifolium, *Roxburgh,* (not of *Linnæus, Willdenow, Sieber,* or *Klotzsch.*)
99 discolor, *Colenso,* (not of *Kunze,* or *Pappe & Rawson.*)
99 distans, *Colenso,* (not of *Fee, Don,* or *Brackenridge.*)
99 erosum, *of Gardens,* (not of *Linnæus, Lamarck, Sprengel, Willdenow, Desvaux, Presl,* or *Wallich.*)
99 forsterianum, *Colenso.*
99 intermedium, *Kaulfuss, Fee, Sprengel,* (not of *Presl* or *Blume.*)
99 polyodon, *Swartz, Poiret, Willdenow, Sprengel, Kunze, Desvaux, Hooker,* (not of *Wallich.*)
99 tavoyanum, *Wallich.*
99 zamiæfolium, *Presl,* (not of *Hooker, Willdenow, Poiret, Moore, Desvaux, Fee.*)
99 Tarachia falcata, *Presl.*
99 hænkeana, *Presl.*
99 polyodon, *Presl.*
99 Trichomanes adiantoides, *Linn.*
99 Asplenium firmum, *Fee,* (not of *Kunze, Mettenius,* or *Moore.*)
99 falcatum, *Roxburgh.*
Ceylon, India, Malacca, Java, Philippines, Amboyna, China,

PAGE.

Feejee Islands, Oahu, Norfolk Island, New South Wales, etc.
101 rachirhizon, *Fee, J. Smith, Brackenridge.*
101 amabile, *Liebmann.*
101 unisoriale, *Raddi, Desvaux.*
105 attenuatum, *Mettenius.*
105 Tarachia attenuata, *Presl.*
107 Athyrium tenuifrons, *Moore.*
111 Asplenium petrarchæ, *Poiret, Sprengel, Link, Mettenius, Heufl.*
111 pilosum, *Gussoni.*
111 petrarchæ, var. lata, *Moore,* (plate xxxviii B.)
111 Polypodium petrarchæ, *Guerin.*
113 Asplenium aitoni, var. axillare, *Moore.*
115 australe, *Presl, Hooker, Fee, Moore.*
115 Allantodea tenera, *Brown, Sprengel, Desvaux, Kunze.*
117 Asplenium umbrosum, *Metten.*
117 aitoni, *Moore.*
117 Allantodia oligantha, *Desvaux.*
117 Aspidium oliganthum, *Desvaux.*
117 Asplenium umbrosum, var. axillare, *Moore,* (pl. xxxix.)
117 axillare, *Webb & Berthelot.*
117 Aspidium caudatum, *Swartz. Willdenow, Desvaux.*
117 obligodontum, *Desvaux.*
117 Athyrium azoricum, *Fee.*
117 Nephrodium oligodontum, *Desv.*
117 Tectaria caudata, *Cavanilles.*
119 Asplenium nitens, *Swartz, Hooker, Bojer, Moore, Poiret, Mettenius.*
119 macrophyllum, *Moore,* (not of *Swartz.*)
119 macrocarpum, *Telfair.*
121 Asplenium formosum, *Moore.*

Sir W. J. Hooker has grouped together a large number of Ferns under the head of Asplenium erectum of *Bory*, of which the A. dentex of this work is one; his synonymes are, therefore,—

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121 erectum, *Bory, Mettenius, Schlechtendal, Moore, Pappe and Rawson, Hooker.*
121 mutilatum, *Kaulfuss.*
121 inæquilaterale, *Willdenow.*
121 falcatum, *Thunberg,* (not of *Lamarck.*)
121 lunulatum, *Kunze, Pappe & Rawson, Mettenius.*
121 dolabella, *Kunze, Fee.*
121 sphenolobium, *Kunze.*
121 insulare. *Carmichael.*
121 dentex, *Lowe.*
121 marinum, *Thouars.*
121 brachyotus, *Kunze, Pappe & Rawson, Mettenius, Moore.*
121 auricularium, *Desvaux.*
121 consanguineum, *Gaudichaud.*
121 brasiliense, *Raddi, Kunze, Moore.*
121 pulchrum, *Wallich.*
121 tenerum, *Raddi.*
121 regulare, *Swartz, Presl.*
121 triste, *Kaulfuss, Kunze, Mettenius.*
121 erectum, var. proliferum, *Hooker.*
121 radicans, *Pritchard.*
121 pavonicum, *Brackenridge, Mettenius.*
121 reclinatum, *Houlston and Moore, J. Smith, Lowe.*
121 stoloniferum, *Bory, Swartz, Willdenow.*
121 alatum, *Richard.*
121 fernandesianum, *Kunze, Mettenius, Gray, Moore, Colla, Hooker.*
121 erectum, var. harpeodes, *Hooker.*
121 harpeodes, *Kunze, Liebmann, Moore, Fee.*
121 falcatum, *Martens and Galleotti.*

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121	A. erectum, var. subbipinnatum, *Hooker.*
121	var. pinnatipartitum, *Mettenius.*
121	pulchrum, *Thouars*, *Kunze.*
121	cuneatum, *Kunze.*
121	reclinatum, var. lobatum, *Moore.*
121	lobatum, *Pappe & Rawson.*
121	gracile, *Pappe & Rawson.*
121	pappei, (?) *Moore.*
123	formosum, *Poiret*, *Sprengel*, *Desvaux*, *Moore*, *Klotzsch.*
123	incisum, *R. Brown*, (not of *Thunberg*, *Swartz*, *Desvaux*, *Willdenow*, *Poiret*, *Kunze*, *Opiz*, or *J. Smith.*

PAGE.	
123	Asplenium odontophyllum, *Wall.*
123	subalatum, *Hooker & Arnott.*
125	caudatum. *Hooker*, *Swartz*, *Willdenow*, *Blume*, *Moore*, *Mettenius*, *Poiret*, (not of *Cavanilles.*)
125	truncatilobum, *Fee.*
125	cyatheæfolium, *Bory.*
125	Diplazium cyatheæfolium, *Presl*, *Cuming.*
125	Asplenium multisectum, *Blume.*
125	horridum, (not of *Kaulfuss.*)
125	aureum, *Blume*, (not of *Cavanilles.*)
125	Tarachia caudata, *Presl.*
125	truncatiloba, *Presl.*
127	Athyrium decurtatum, *Moore.*

VOL. VI.

(See also pages 25 to 30, vol. vii.)

PAGE.	
31	Polystichum vestitum, var., *Moore.*
39	vestitum, var., *Moore.*
73	Aspidium pubescens, (not of *Swartz.*)
73	Lastrea quinquangularis, *Moore.*
85	Aspidium trifoliatum, *Sprengel*, *Klotzsch.* (See p. 28, vol. vii.)
85	Polypodium cordifolium, *Lieb.*
87	Nephrodium molle, (not of *Link.*)
89	Lastrea noveboracensis, *Moore.*
91	Polystichum triangulum, *Moore.*

PAGE.	
99	Polystichum flexum, *Moore.*
105	Lastrea aristata, *Moore.*
105	Aspidium coniifolium, (not of *Presl.*)
107	Polystichum coriaceum, *Moore.*
111	Aspidium canariense, *Kunze.*
111	Lastrea canariensis, *Moore.*
113	frondosa, *Moore.*
115	Nephrodium terminans, *Moore.*
117	Sagenia cicutaria, *Moore.*
119	macrophylla, *Moore.*
121	Nephrodium unitum, *Moore.*
123	hookeri, *Moore.*

VOL. VII.

(See also page 30, vol. vii.)

PAGE.	
7	Lastrea kaulfussii, *Moore.*
11	æmula, *Moore.*
13	hispida, *Moore.*
15	Nephrodium glandulosum, Moore.
17	Lastrea crinita, *Moore.*
37	Mesochlæna javanica, *Moore.*

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41	Oleandra neriiformis, *Moore.*
59	Nephrolepis tuberosa, *Moore.*
55	platyotis, *Moore.*
87	Cystopteris tenuis, *Desvaux.*
91	Hemionitis palmata, *Moore.*
93	cordifolia, *Moore.*

THE derivations of the following not having appeared at the proper places are inserted here.

Vol. I.,	page 83	Dryopteris—Oak Fern.
Vol. II.,	" 67	Musæfolium—Musa (Banana) leaved.
"	" 69	Morbillosum—Somewhat sickly-looking.
Vol. III.,	" 13	Macrophyllum—Large-leaved.
"	" 53	Cultratum—For sharp, read shaped like a plough coulter.
"	" 129	Crenata—Notched.
Vol. IV.,	" 3	Felosma—For Heavy-swelling, read Strong-smelling.
"	" 19	Scaberula—Somewhat rough.
"	" 39	Micromera—Small divisions.
"	" 115	Meyeriana—Named after Meyer.
"	" 135	Punctulata—Dotted.
Vol. V.,	" 69	Marinum—Sea.
"	" 101	Rachirhizon—Rachis-rooted.
"	" 107	Strigillosum—From a strigil, or curry-comb.
"	" 159	Krebsii—Named after Krebs.
Vol. VI.,	" 19	Truncatula—Slightly truncate.
"	" 35	Augescens—Increasing.
"	" 57	Acrostichoides—Acrostichum-like.
"	" 89	Thelypteroides—Thelypteris-like.
Vol. VII.,	41-43	Oleandra—Oleander-like.
"	" 145	Melanopus—Black-footed.
"	" 151	Osmundacea—Osmunda-like.

CONCLUSION.

It is necessary to say a few words to the subscribers in concluding a work extending over a number of volumes, as, in course of progress, plans become somewhat changed, and alterations take place that were not thought of at the commencement of the work. It was intended to publish a large Glossary at the conclusion, but the Addenda to the different volumes has extended the work beyond the prescribed limits, and it was thought desirable that the Glossary should give place to the Addenda.

In conclusion, I must offer my most hearty thanks to those gentlemen who have so kindly afforded me assistance in the present undertaking, both by supplying me with plants and fronds, and also with works and information on the subject, and in doing so I must more especially mention the great obligations I am under to Sir W. J. Hooker; Mr. Thomas Moore, of the Botanic Gardens, Chelsea; Mr. Joseph Henderson, of Wentworth; Mr. J. Smith, the Curator of the Royal Gardens, Kew; Mr. Moore, of the Glasnevin Gardens; Professor Balfour, of Edinburgh; Mr. Norman, of Hull; Mr. Clarke, of the Glasgow Gardens; Mr. Veitch, Jun., of Chelsea; Mr. Sim, of Foot's Cray; Mr. Rollisson, of Tooting; and Mr. E. Cooling, of Derby. There are many more to whom my thanks ought to be given, and although not mentioning them personally, to each and all who have rendered me assistance I beg to return my grateful thanks.

The difficulty in determining imperfectly-known species, (especially where the author has not the advantage of reference to the specimens of the different anthorities,) is very great; botanists must therefore welcome as a great boon the valuable works now publishing on the subject, namely, "The Species Filicum" of Sir W. J. Hooker, and the "Index Filicum" of Mr. Thomas Moore. These works, as far as they have already progressed, have been almost universally adopted, and for this reason the Addenda has become larger than it otherwise would have been.

Since the commencement of the work a variety of New Ferns have been introduced into cultivation in this country, and these have now been described and figured in an addenda to the present work, entitled "A Natural History of New and Rare Ferns."

The author's endeavour, in publishing a work on Ferns, has been to describe as faithfully as he was able, the different Ferns cultivated in the gardens, greenhouses, and stoves, of Great Britain, and to give this information with coloured illustrations in a very cheap form (considering the expense of the plates) to the public, leaving the deep study of the subject to the valuable works, already quoted, of Sir W. J. Hooker and Mr. Moore.

AUTHORITIES QUOTED IN VOL. VIII.

Agardh.
Andrews, W.
Arnott.
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Berthelot.
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Bolle.
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Bolton.
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Bory.
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Buchanan.
Cavanilles.
Carmichael.
Calwell.
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Cameron, D.
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Colla.
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Cunningham, A.
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Deakin.
Dalechamps.
Davall.
Decaisne.
Descourt.
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De Vriese.
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Dieffenbach.
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Du Petit-Thouars.
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Ehrhart.
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Edgerley, J.
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Fee.
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Forbes.
Galleotti.
Gardner.
Gaspar.
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Gilibert.
Gillies.
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Koch.
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Kunze.
Kunth.
La Billardiere.
Lamarck.
Langsdorff.
Lapeyrouse.
Lasch.
L'Heritier.
Liebmann.
Lindley.
Link.
Linnæus.
Lemann.
Ledebour.
Linden.
Lumnitz.
Loddiges.
Lowe, E. J.
Lowe, H.
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Martius.
Mackay.
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Mohr.
Moore, T.
Moore, D.
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Muelle.
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Nyman.
Oeder.
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Palisot.
Pappe.
Parker.
Paxton, Sir J.
Pernetty.
Philippi.
Pritchard.
Perony.
Petiver.
Plukenet.
Plumier.
Pœppig.
Pohl.
Poiret.
Presl.
Pursh.
Pratt, Miss.
Purdie.
Raddi.
Ralfs.
Rawson.
Remy.
Reinwardt.
Retzius.
Reeves, J.
Roehling.
Roth.
Roxburgh.
Richard.
Roemer.
Rothery, H. C.
Rollisson.
Rudge.
Rumphius.
Ruprecht.
Sadler.
Salisbury.
Saltzmann.
Schiede.
Schkuhr.
Schlechtendal.
Schott.
Schrader.
Scouler.
Schnizl.
Schultz.
Seuber.
Sim.
Sinclair.
Sloane.
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Solander.
Sowerby.
Splitgerber.
Sprengel.
Sturm.
Sueber.
Swartz.
Sweet.
Tausch.
Taschner.
Telfair.
Tines.
Turcz.
Thunberg.
Tode, H. J.
Vahl.
Vautier.
Ventenat.
Veitch, J., Jun.
Velloz.
Villars.
Wahlenberg.
Wallich.
Wallroth.
Watson, H. C.
Webb.
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Willdenow.
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Withering.
Wulfen.
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Zeyher.
Zenker.
Zippel.
Zollinger.

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[Those Ferns having *an authority* attached, are the respective names adopted in this Work, of which a description, together with a coloured illustration, and one or more woodcuts are given. a 1, a 2, a 3, a 4, a 5, a 6, and a 7, refer to the appendix of each volume, placed at the end of the present volume.]

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